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The University of Southern Mississippi

IDENTIFYING CHARACTERISTICS THAT INFLUENCE FIRST-TIME, FULL-TIME
FRESHMEN PERSISTENCE AND EXPLORING EFFECTIVE AND STRATEGIC
RETENTION INITIATIVES FOR AN AT-RISK STUDENT POPULATION

by

Erin Lambert Dornan

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

August 2015

ABSTRACT

IDENTIFYING CHARACTERISTICS THAT INFLUENCE FIRST-TIME, FULL-TIME FRESHMEN PERSISTENCE AND EXPLORING EFFECTIVE AND STRATEGIC RETENTION INITIATIVES FOR AN AT-RISK STUDENT POPULATION

by Erin Lambert Dornan

August 2015

The purpose of this research is to understand background and behavioral characteristics that influenced student persistence of first-time, full-time, freshmen at a four-year public institution, The University of Southern Mississippi (USM). This study provided an outline for institutions of higher learning to create a profile assessment on their campus and identify students that were more likely to need additional support in order to be successful. Research has shown that understanding students' needs can increase student retention on campus (Gerdes & Mallinckrodt, 1994; Gifford, Briceño-Perriott & Mianzo, 2006; O'Keefe, 2013). Coll and Stewart (2008), explained that research in this field was more reactive because the study was typically conducted after students dropped out of college.

Based on the theoretical framework of Vincent Tinto (1975), this study provided an analysis of research regarding student withdrawal and retention. This mixed methods sequential explanatory design consisted of three phases and gained a more comprehensive understanding of student persistence. The first two phases of the study used quantitative data to establish a predictive model and explored variables that influenced the likelihood students would enroll, or not enroll, during their second fall

semester. An exploratory and confirmatory factor analyses were conducted to ensure factors or latent variables were valid and reliable.

During Phase I, the predictive model primarily focused on a student's individual background characteristics which included academic preparedness from high school, gender, ethnicity, family background including education level and income, and other variables from a student's admissions and financial aid application. During Phase II, the background characteristics established during Phase I and the behavioral characteristics were used for a second and final predictive model using logistic regression. A student's behavioral characteristics included engagement and motivation, goal commitment and procrastination, college choice and institutional commitment, and expectations or adjustment to college. Students with characteristics that were reported as significantly influencing student persistence were considered the at-risk population at USM. Therefore these characteristics could allow administrators, faculty, and staff an opportunity for early intervention. The final phase used qualitative data to further explore the at-risk population at USM and examine how this research could affect university policy and practice.

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The University of Southern Mississippi

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DEDICATION

This dissertation is dedicated to the author's Heavenly Father who provided opportunities and resources to complete this research, and to the author's earthly father for providing encouragement and motivation to take one step at a time until the task was complete. The author would also like to thank family and friends for their prayers, love, and support during this educational journey, especially her husband, Patrick, for the countless hours taking care of Beth Claire. A special thanks to Ashley Johnston for pushing me to be successful and helping me persist and graduate with my doctoral degree.

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CHAPTER I

INTRODUCTION

Overview

Over the past 40 years, researchers have studied why students discontinue enrollment or attendance in colleges and universities. In a study conducted by Harrison (2006), several variables were reported which explained the motivations regarding a student's decision to leave an institution. Students left voluntarily due to medical, financial, or other personal needs, while other students were forced to leave due to poor academic standing. The act of leaving an institution of higher learning and not completing a college degree was defined as student dropout and attrition (Harrison, 2006). On the other hand, research has also focused on the other side of the equation which relates to why students stay enrolled and complete a college degree. Pascarella and Terenzini (2005) defined the act of retaining students as continuous enrollment "from one term to the next or temporarily interrupted and then resumed" (p. 374). This action of retaining a student through degree completion can also be seen as student persistence, student success, or student retention. Vincent Tinto (2012) stated, "The process of persistence is not the mirror image of the process of leaving" (p. 5). He was expressing the idea that the cause of a student leaving an institution does not always correlate or connect to the reasons why a student persists. According to Kuh, Kinzie, Schuh, Whitt and Associates (2005), student success can be defined as students who "persist, benefit in desired ways from their college experience, are satisfied with college, and graduate" (p. 8). This study primarily focused on understanding why some students were more at-risk of withdrawing or dropping out during their first year in college. Student attrition,

dropout, retention, persistence, and success were all words to describe or measure students' success when obtaining or completing a college degree. This study defined the at-risk population as students that were predicted to not enroll for their second fall semester at The University of Southern Mississippi.

Noel, Levitz, Saluri, and Associates (1985) provided an explanation of how colleges and universities could achieve higher degree completion and continuing enrollment in higher education. When students have access to campus resources, programs, and services that encourage student success, retaining students, or keeping them engaged may be achieved. These services could be offered through the classroom as well as other areas of campus life. In order to offer strategic and effective programming for student success, college and university administrators, faculty, and staff have studied literature and theory on student retention, persistence, and degree completion. An institution's operational budget can be affected by the economy, number of students enrolled, and the costs of keeping the institution open. Perez-Pena (2013) indicated that college enrollment had decreased in 2012-2013 and linked it to the job market and economic recovery. It suggested that some institutions were dependent upon tuition revenue from their students and may begin to see the financial strain from decreased enrollment. Therefore, college and university officials can examine student retention and degree completion as a way to bring in tuition dollars and revenue to supplement the operational budget. If institutions retain more students, it could help maintain or grow enrollment numbers. For this reason, understanding how their specific institution or state governing body calculates enrollment and retention may allow strategic planning to take place.

Most states provide access to public information regarding their student population. Specific to this study, the state of Mississippi calculates retention and graduation rates based on a specific group or cohort of students. A retention cohort consisted of first-time, full-time freshman students entering a public institution during a fall semester. This group of students can be tracked throughout their collegiate journey to see if they persist and earn a degree (U.S. Department of Education, 2015). Therefore, Mississippi institutions of higher learning could conduct research to better understand which factors may contribute to a student leaving, specifically a student within a designated cohort.

Tinto (1975) studied background characteristics of individuals that illustrate student persistence and withdrawal in college. These background or precursor characteristics could include students' attributes, pre-college experiences, and family backgrounds. Researching precursor characteristics, such as individual attributes that students possess before they enter college, studies have shown how academic ability, parental education, gender, and ethnicity have been predictors of student success in college. In regard to academic ability, students may be required to meet certain admissions standards before they can enroll. Research has measured academic ability through a student's high school grade point average (GPA), or through standardized test scores such as Scholastic Aptitude Test (SAT) or American College Testing Program (ACT). Both GPA and test scores have been found to play a role in predicting student success in college and retention issues (Chen & St. John, 2011; DeBerard, Spielmans, & Julka, 2004; Gifford et al., 2006).

Along with academic ability, parental involvement, support, and educational level have also influenced student success. Ishitani (2006) explained how different levels of family income and educational goals can significantly impact a student's decision to withdraw or continue in college. In regard to family income level, information from the Free Application for Federal Student Aid (FAFSA) measured a family's ability to help pay for college. The federal government has used the Estimated Family Contribution (EFC) to evaluate a family's ability to contribute to a student's education (U.S. Department of Education, 2010b). According to the United States Department of Education (2013b), the National Center for Education Statistics (NCES) reported that young adults' income level with a Bachelor's Degree was over \$15,000 more than those with only a high school diploma. Families with lower educational achievements or degrees may contribute to a family's household income, which could in turn affect a family's ability to contribute to a student's education. Therefore, studies have been conducted to analyze the influence a family's financial situation or financial assistance has on a student's ability to stay enrolled in college (Chen & DesJardins, 2008; Harrison, 2006; Ishitani, 2006).

Gender and ethnicity are also precursor or background student characteristics that have been found in persistence literature. According to the U.S. Department of Education (2012b), the majority of students entering American post-secondary institutions were female. Research has been conducted to look for reasons which influence men and women's probability to persist through college. In regard to female student withdrawal, Johnson (1996) reported that females were more likely than male students to voluntarily withdraw from college, while Pascarella and Terenzini (1983)

explained that this could be due to social factors versus academic reasons. Research has also shown that men and women's outlook on college was influenced by their ability or enjoyment of high school (Kleinfeld, 2009).

Ethnicity has been studied to explain why some students are not completing their college degree. A study showed minority students, as opposed to majority students, were more likely to not enroll because their institution would not allow them to return. This may be due to academic or financial reasons. On the other hand, the majority of students were more likely to withdraw voluntarily (Arnold, 2012). Rodgers (2013) conducted a study in the United Kingdom that found minority students were less likely to continue their education than other students. It also found that financial problems were more likely to affect the African American student population which could impact the retention rate of this population. African American students tend to benefit or increase their rate of persistence if they lived in living-learning centers, more so than Caucasian residents (Rodgers, 2013; Pascarella & Terenzini, 2005).

Other studies have been conducted to see if other individual characteristics beyond attributes and family background characteristics could influence student persistence in higher education. These variables include level of student engagement and motivation during high school, student procrastination and goal commitment, institutional commitment and college choice, and a student's ability to adjust to higher education. Research has shown that these areas can affect a student's transition to college, college GPA, and ultimately whether students continue enrollment (Bahr, 2009; Gerdes & Mallinckrodt, 1994; Herndon, 2012; House, 2003; Lowis & Castley, 2008; Pitre, 2006; Robbins et al., 2004; Roderick, 2003). When looking at student engagement and

motivation, Robbins et al. (2004), reported that motivation to achieve in college while a student is in high school was a strong predictor in that student's college GPA. Another study found that students were more likely to be engaged and attend class if they had supportive families, took responsibility for their grades in high school, and sought help from teachers (Roderick, 2003). Similarly, House (2003) reported that students with a high need to achieve in college were more motivated to reach certain educational goals.

Goal and institutional commitment were others areas Tinto (1975) found to be important when reviewing student dropout. House (2003) showed how students were more likely to have higher college GPAs, if students set a goal of graduating with honors. When setting these goals, students also may have the ability to procrastinate or delay certain choices that could impact completing goals. Bahr (2009) concluded that students can procrastinate in college and hinder their ability to complete certain enrollment benchmarks, such as completing certain courses mandatory for degree completion. Procrastination can also be seen when students apply to a college or university. They may delay selecting a college or completing necessary paperwork for admissions.

A student's institutional commitment is defined as the "components which predisposed him [her] toward attending one institution rather than another" (Tinto, 1975, p. 93). Simões and Soares (2010) reported how the location of institution, academic reputation, and interpersonal relationships with teachers or counselors in high school were also components of the college selection process. Studies have shown that students must be informed of these components in order to make good decisions about their

collegiate career (Herndon, 2012; Pitre, 2006). Herndon (2012) suggested that colleges and universities should provide sufficient information regarding academic majors, careers, and how to afford tuition and fees to help students with their college choice.

Even if students research different institutions when choosing a college or university, students may have a hard time adjusting to the new college environment. The ‘freshman myth’ was studied and defined when students’ expectations do not always match the actual college experiences (Gerdes & Mallinckrodt, 1994; Harrison, 2006; Lowis & Castley, 2008). Gerdes and Mallinckrodt (1994) explained that some students adapt to the transition, while others fail to alter their expectations for the academic rigor of a collegiate environment. These expectations can have a significant effect on college completion and persistence (Gerdes & Mallinckrodt, 1994). Lowis and Castley (2008) found that false expectations were causing students to spend more time learning how to do well in school with their professors.

Researchers and higher education practitioners should be aware of the literature surrounding factors that may contribute to student success and retention matters. In the mid-1970s, enrollment management departments were organized to better understand and facilitate college choice as well as the factors that influenced student attrition (Coomes, 2000). Coomes (2000) stated that understanding theoretical models could “influence the development of interventions aimed at keeping students enrolled” (p. 12). Enrollment management responsibilities began to grow with new research from the 1980s regarding the increase in women and nontraditional students in higher education.

Theoretical Framework

Researchers and higher education practitioners have employed the work of Vincent Tinto (1975) to gain more knowledge of the theoretical framework that surrounds student success. After studying Durkheim's theory of suicide, Tinto applied this knowledge to the college withdrawal process. Tinto looked at students' individual characteristics as well as experiences students may have while in college. His study showed that a mixture of both initial or precursor qualities and campus interactions allow the student to have a positive or negative experience during college. These experiences may lead to a student's decision to persist or withdraw from college. Tinto observed precursor characteristics like gender, race, and pre-college experiences like high school GPA and other academic accomplishments. These precursor characteristics, coupled with a family's beliefs, can lead to a student's goal or expectation of college. In 1982, Tinto reviewed his model and found that other variables should be considered. Financial stability and a student's environment can also play a factor in the withdrawal process.

Statement of the Problem

Prior literature on student success and retention is broad and covers a wide-range of variables, including student precursor characteristics, social interactions, or curricula integration while enrolled. However, most of these studies review student records after a student has already withdrawn from the college or university system. This information is typically gathered over an extended period of time through longitudinal data collection and analysis. This type of research may not facilitate immediate action, which is necessary in order to assist the students from the beginning of their first semester in college.

A gap in the literature exists regarding students who are more likely to be unsuccessful at the earliest stage of entrance into college. These students are more likely to be at risk of discontinuing enrollment before the start of their second fall semester. Discontinuing enrollment can cause a financial strain to the institution through lack of tuition dollars, as well as hinder a student's ability to continue their college education. Creating a profile assessment could include identifying precursor characteristics and expectations that may predict a student's likelihood to discontinue enrollment.

Recognizing at-risk students before they begin their collegiate career could help administrators plan for their incoming class and provide academic support from the beginning of students' educational career. Not only would this research help identify students at risk of withdrawing or leaving college at an early stage, but more importantly, all institutions of higher learning could focus their retention efforts more strategically. College and universities are different from each other, and therefore attract a different type of student body. Future studies should be conducted to see how student precursor characteristics play a factor in retention and student success at their particular institution. This type of research could create support and financial resources for improving university academic and student support programs. These programs could then be managed specifically towards a particular student body population's needs, which may improve university retention and graduation rates.

Purpose of the Research

The purpose of this applied-action research was to develop a model that identifies students who may be at risk of not returning to their second fall semester at a public research-intensive university. This model helps institutions of higher learning identify

students before they begin their collegiate career instead of waiting until after they withdraw or stop attending. By targeting the at-risk population, the results of the study could be used to direct strategic retention initiatives for students, faculty, staff, and administrators in higher education. This research could find new areas to provide support for students throughout their college enrollment, which could allow students to become more successful as well as create more revenue for the institution through a possible increase in retention and graduation rates. This study could benefit higher education as a whole because administrators, faculty, and staff from all different types of four-year or two-year institutions could use the model described in this study to identify students on their own campuses and customize their retention strategy effectively. Results should provide a better understanding of the relationship between a specific institution and student persistence issues, as well as how specific characteristics of students can be identified as at risk of not being successful during their first year of college. Using the process developed in this research, any institution could tailor its analysis to identify student qualities that influence their retention and graduation rates.

Research Questions

A mixed method approach was used in this study to get a better understanding of identifying at-risk students to a unique student body population and to implement or create policy around findings. Three data sources were used for analysis. Quantitative data collected during Phase I and II was through secondary sources, whereas Phase III used a primary qualitative data source. Quantitative research can use survey or experimental designs to provide a numeric analysis which allows the researcher to generalize about a given population (Creswell, 2009). The purpose of qualitative

research is to understand “the meaning [which] people have constructed, that is, how people make sense of their world and the experiences they have in the world” (Merriam, 2009, p. 13). This study used an explanatory sequential approach for this mixed method design. Therefore, the final source of qualitative data in Phase III was built upon the results of the quantitative data sets in Phase I and II. These results informed the interviews of key administrators, faculty, and staff tasked with enrollment management issues, or had insight into retention and student success initiatives at The University of Southern Mississippi. Participants were knowledgeable of financial aid and scholarships, recruitment practices, and populations such as first-generation and low-income students. Results found from Phase I and II were used to guide the interviews to examine the at-risk population in further detail.

Phase I used secondary data from a student’s individual precursor characteristics. The following questions formed the basis for this study and focused on first-time, full-time students who were identified as a member of a freshman cohort at The University of Southern Mississippi:

1. Was there a relationship between ethnicity and student persistence to the second year of college?
2. Was there a relationship between gender and student persistence to the second year of college?
3. Was there a relationship between parental income and student persistence to the second year of college?
4. Was there a relationship between high school grade point average and student persistence to the second year of college?

5. Was there a relationship between scores on standardized tests and student persistence to the second year of college?
6. Was there a relationship between the time a student has applied and been admitted to the institution and student persistence to the second year of college?

The following questions formed the basis using the second source of data for this study. Student responses were collected from the 2013 and 2014 New Student Questionnaire (NSQ), an instrument developed for The University of Southern Mississippi for purposes of this research. The NSQ was adapted from The University of Oklahoma's 2011 New Student Survey (used with permission, Appendix A). Data collected were used as secondary data regarding first-time, full-time students in both the 2013-2014 and 2014-2015 freshman cohort at The University of Southern Mississippi. Based on the analysis, students were placed in two categories: either at-risk of persisting to their second year of college or enrolling in their second year of college. The following questions formed the basis of Phase II:

1. Was there a relationship between a student's difficulty in adjusting to the collegiate life and being identified as an at-risk student?
2. Was there a relationship between a student's level of academic engagement in high school and being identified as an at-risk student?
3. Was there a relationship between a student's institutional commitment and being identified as an at-risk student?
4. Was there a relationship between a student's level of financial commitment and being identified as an at-risk student?

The following questions formed the basis using the final source of data for this study. Face-to-face interviews were conducted with administrators at USM, who were tasked, or had experience and knowledge with retention and graduation initiatives. Collected data explored administrators' attitudes and student persistence efforts to help increase retention rates and understand USM's unique at-risk population:

1. What population of students did administrators believe are most at-risk of not persisting to their second fall semester at USM?
2. What were administrators doing currently to identify and assist at-risk students to persist at The University of Southern Mississippi?
3. How would having knowledge of a specific set of characteristics that identify at-risk students at their institution affect decisions regarding policy and intervention?

Research Hypotheses

The hypotheses that form the basis for this study for Phase I and II were as follows:

1. Ethnicity was related to a student's persistence rate to his/her second year of college.
2. Gender was related to a student's persistence rate to his/her second year of college.
3. Parental income was related to a student's persistence rate to his/her second year of college.
4. High school grade point average was related to a student's persistence rate to his/her second year of college.

5. Performance on standardized tests was related to a student's persistence rate to his/her second year of college.
6. The date of when a student is admitted to the institution was related to a student's persistence rate to his/her second year.
7. A student's ability to transition to collegiate life during their first year was related to a student's persistence rate to his/her second year of college.
8. A student's level of academic engagement was related to a student's persistence rate to his/her second year of college.
9. A student's institutional commitment was related to a student's persistence rate to his/her second year.
10. A student's financial commitment was related to a student's persistence rate to his/her second year.

Justification for Research

This study was conducted at one public four-year research intensive university, The University of Southern Mississippi (USM). In 2013, the undergraduate student body population numbered just under 12,500, and 85% of the undergraduate students were from the state of Mississippi (Institutional Research, 2013a). As mentioned earlier, prior literature identifies high school academic preparedness as a factor that can influence student retention in college (Chen & St. John, 2011; DeBerard et al., 2004; Gifford et al., 2006). When comparing the state of Mississippi in regards to high school preparedness, the U.S. Department of Education (2012c) reported that Mississippi students in grades 4 and 8 scored below average on all math, reading, science, and writing scores on the

National Assessment of Education Progress reports. Similar results showed that the state of Mississippi scored a D and was below the national average on the State Report Cards which report policy and performance outcomes (Editorial Projects in Education, 2015).

When comparing Mississippi higher education to other national institutions, U.S. News provided college rankings to help educate students and families concerning the college selection process. Through a two pillar system, the report used quantitative methods to measure academic quality such as Carnegie classification, high school class standing, and graduation rate performance (U.S. News, 2014b). Comparing Mississippi institutions to other national university rankings in 2014, Mississippi State University was ranked 142 and the University of Mississippi at 150, out of the top 201 institutions. The University of Southern Mississippi (USM) and Jackson State University were listed in the report, but ranks were not published.

Because Mississippi students have reported lower scores on national report cards and assessments, USM was chosen specifically for this study to better understand its unique student body population and the characteristics that influence student persistence in college. Even though this particular study was conducted at one public four-year research intensive university in Mississippi, the data collection and analysis process can be used by all institutions of higher learning. The goal of this research was to identify a campus' specific needs in helping their students persist throughout their collegiate career and results from this research has the potential to be used by any institution in higher learning on a national basis. Through the identification of students who may or may not be successful in college before they begin their first semester on campus, this study supported other institutions to implement strategic retention initiatives that are unique to

their campuses. U.S. News reported that “the higher the proportion of freshmen who return to campus for sophomore year and eventually graduate, the better a school is apt to be at offering the classes and services that students need to succeed” (U.S. News, 2014b, p. 4). During academic advisement, faculty and staff members could take these findings and develop effective interactions with the targeted at-risk population. This interaction could be strategic regarding when an academic appointment should be made throughout the semester, material that is covered, and academic resources that could be provided. Staff members tasked to increase enrollment and help students succeed could benefit by understanding the needs of the student body. If these at-risk students are enrolled in similar courses, more tutoring services or academic support could be given to help them be successful. Staff members could also be aware of time sensitive data like financial and academic deadlines and communicate this information to the students. Finally, administrators would gain a better understanding of retention and how to help their students be satisfied with their institution. Administrators could implement faculty incentives through the tenure process to create a culture that provides extra assistance to these at-risk students, as well as develop a more revenue-based budget strategy for both academic and non-academic departments.

Definition of Terms

The following terms were specific to this study:

Academic preparedness – measured through high school grade point average and standardized test scores (Tinto, 1975).

At-risk students – students who are more likely to discontinue enrollment before the start of their second fall semester at The University of Southern Mississippi.

Attrition - the act of leaving or dropping out of an institution of higher learning and not completing a college degree (Harrison, 2006), or the first time a student is not active or enrolled in courses (Singell & Waddell, 2010).

Expected Family Contribution (EFC) – value used to determine a student’s need or eligibility for financial assistance through the United States Federal Government (U.S. Department of Education, 2010b).

First-generation student – students whose parents may have attended college, but never graduated with a Bachelor’s Degree (Ishitani, 2006).

Gender gap – the growing number of women completing a degree over men in higher education (Buchmann & DiPrete, 2006).

Mixed methods research – incorporates both quantitative and qualitative research as well as methods in a research study (Creswell, 2009).

Precursor characteristics – individual attributes in which a student brings with them to their first year of college.

Procrastination – a delay towards a rate of progress or action (Bahr, 2009).

Profile assessment – identifying precursor characteristics which may predict a student’s likelihood to persist.

Retention – continuous enrollment “from one term to the next or temporarily interrupted and then resumed” (Pascarella & Terenzini, 2005, p. 374).

Retention cohort – a group of first-time students entering a four-year institution during a fall semester and enrolled again for the continuous fall semester (U.S. Department of Education, 2015).

Sequential explanatory strategy – strategy for mixed methods design where quantitative data collection and analysis is the first phase of research, followed by the qualitative measure which builds upon the quantitative results (Creswell, 2009).

Student Success – when students “persist, benefit in desired ways from their college experiences, are satisfied with college, and graduate” (Kuh et al., 2005, p. 8).

Delimitations

Data collected from this study used first-time, full-time undergraduate students in the freshman cohort at The University of Southern Mississippi. Therefore, incoming undergraduate transfer students, current upper class students, and graduate students were not included in the study. This study analyzed secondary data from two different cohorts at The University of Southern Mississippi: 2012-2013 and 2013-2014. Phase II analyzed data from 2013-2014 and 2014-2015 freshman cohorts at The University of Southern Mississippi. Finally, this study employed a qualitative exploration of administrators with an interest in helping their student population persist to their second year, in efforts to create retention initiatives that were designed specifically for this at-risk population. Administrators whose job responsibilities do not include, or have experience with retention or enrollment initiatives, were not included in this study.

Assumptions

The data extracted for Phase I of this study from The University of Southern Mississippi records system, PeopleSoft, were accurate. Participants of the study understood and read the directions carefully when responding to the items in the New Student Questionnaire for Phase II of the research. Participants of the qualitative phase answered each item accurately and honestly.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

Theoretical Framework: Vincent Tinto

The general concept of studying retention in higher education involves understanding why some students continue their education and obtain a college degree, while others stop attending college. Since the mid-1900s, researchers have examined students and how college experiences affect their decisions to leave or stay enrolled. Vincent Tinto (1975) was one of the first theorists to develop a model, arguing that there was a process for students withdrawing from college. Tinto studied Durkheim's theory of suicide where individuals, inadequately integrated into society, were more likely to commit suicide. Tinto applied this theory to retention and student success in the college and withdrawal process. He established a theoretical model where students voluntarily want to leave college due to insufficient integration in the college environment. He also applied Spady's concept that student characteristics and interactions were important in student development and took existing knowledge to develop a better way to understand student retention through psychology rather than sociology (Berger, Blanco Ramirez, & Lyons, 2012). The core idea behind Tinto's model regarding retention and student withdrawal illustrated an individual's interactions between the academic and social settings of college. He believed that these interactions could produce positive or negative reactions which would result in an individual's commitment, or lack thereof, for the institution. Tinto (1975) believed that a mutual relationship must exist between the

academic and social life of the student, in order for persistence to occur. A mutual relationship can be seen as each variable having a “direct or indirect impact upon performance in college” (p. 94).

Tinto’s 1975 model identified precursor qualities or characteristics that students possess when they arrive on a college campus. These precursor or background characteristics can be attributes of race, gender, and pre-college experience. Examples of pre-college experiences included high school grade point average, academic and social accomplishments. Also, family background, educational experiences, and expectations for future goals can affect a person’s commitment to their experience in college. Examples of family background characteristics included social status, family values, and family expectations. A student’s expectation of higher education and obtaining a college degree can also influence their decision to stay enrolled at an institution. Tinto (1975) explained that students’ commitments were merely a “reflection of a multidimensional process of interactions between the individual, his family, and his prior experiences in schooling” (p. 103). These interactions led to the goals and expectations students set for their future.

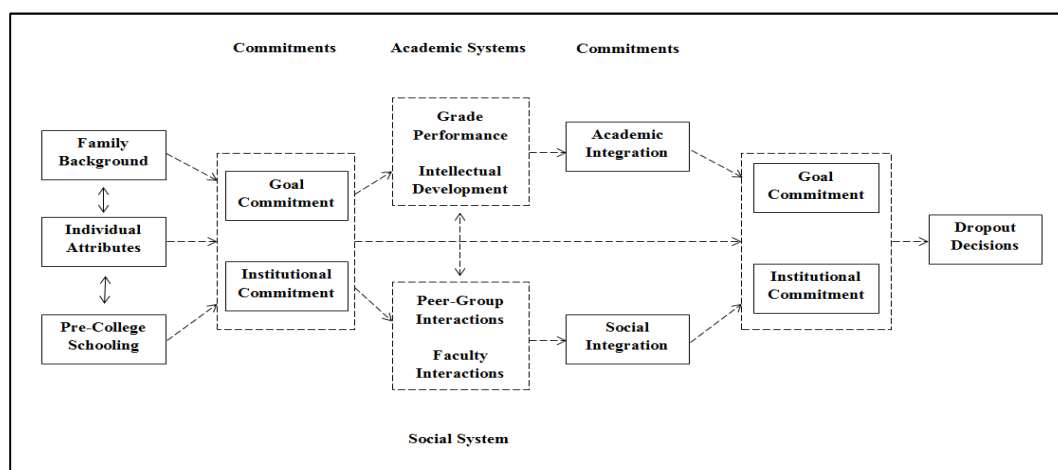


Figure 1. A conceptual schema for Dropout from College (Tinto, 1975, p. 95).

Tinto believed that these characteristics directly influence an individual's commitment to the institution and the likelihood of dropping out or withdrawing from college. Tinto (1975) described his longitudinal approach to student dropout shown in Figure 1. It began with the individual's background characteristics and the extent of his/her commitment to college. These pre-cursor characteristics were then connected to the institution's academic and social systems. Tinto (1975) provided examples of a student's academic system which include college grade point average, intellectual development, and transition to academic climate. Examples of a student's social system could include informal peer groups, extracurricular activity involvement, and interaction with university employees. If the student successfully integrates into one or multiple areas of the institution, that experience is "directly related to his [sic] continuance in that college" (Tinto, 1975, p. 96). Integration was an essential piece to understanding student retention and completion of a degree (Tinto, 1975, 1982, 1988). Tinto's model incorporated students' college experiences. These experiences can create positive or negative interactions in the academic and social environment through relationships or participation in certain events.

Tinto's (1975) model also accounted for social or external factors that may lead a student to withdraw from college. Tinto suggested that a student will withdraw if he/she "perceives that an alternative form of investment of time, energies, and resources will yield greater benefits, relative to costs, over time than will staying in college" (pp. 97-98). Because something changed his or her commitment to completing a college degree, the student may ultimately decide that a degree is not rewarding, and therefore, drop out. This change could also be seen as a paradigm shift in the individual's perceptions.

In 1982, Tinto reviewed his theoretical model and concluded that other characteristics or criteria should be included in order to understand why students may leave an institution. His 1975 model only focused on how the individual characteristics interacted with different factors in the academic and social systems of the institution itself. The model lacked external influences like financial need, environment, or disengagement at two-year colleges. Tinto also believed that retention models should be “designed to highlight in the clearest explanatory terms specific types of relationships between individuals and institutions that may account for particular types of dropout behavior” (p. 689). He explained that individual institutions could have a significant influence on the retention and success of its student population. Each institution can identify the type of student entering in their institution as well as encourage students to complete their degree.

In 1988, Tinto revisited his theory of student departure for a second time by analyzing *The Rite of Passage* written by Arnold Van Gennep (1960). Tinto saw a correlation between Van Gennep’s three stages of separation, transition, and incorporation that helped transition youths to adults. These stages provided another way to view or understand the student departure puzzle. Tinto (1988) explained how the first stage of separation could be seen when students leave their old life or community. Typically, for most incoming first-year freshman students, the first stage of separation is high school or their childhood home. Then there is a transitional phase where students encounter difficulties and hope to shift into a new community. These difficulties could include adjusting to new social groups, leaving family responsibilities, or understanding the structure of a collegiate classroom. The final stage is when a student successfully

incorporates into the new environment or setting. By understanding these three stages and Tinto's theoretical model of student dropout in higher education, college and university officials have a strong foundation for exploring retention issues on their specific campuses.

Analysis of Vincent Tinto's Theoretical Model

Since Tinto's work was published in 1975, other researchers have supported or challenged his findings in student retention. As mentioned earlier, Tinto contributed to the conversation with his notion of student withdrawal and the possible reasons why students choose to leave a college or university. His theory was based on student interactions from academic or social relationships and participation in events as well as individual characteristics that led to a student's level of commitment to the institution. Pascarella and Terenzini (1983) tested the validity of Tinto's model to see if there was a relationship between integration and commitment to the institution. Their longitudinal study was conducted over the first two academic years from a random sample of 1,906 incoming freshman students at a large university in central New York state. Predictive variables such as background characteristics, commitments, and academic or social integration were used to explain variance of students who continued enrollment or withdrew. Results found that "what happens to a student after arrival on campus may have greater impact on persistence than either background characteristics or personal commitments to the institution" (p. 219). However, they agreed that Tinto's theoretical model may be able to predict freshman withdrawal, in addition to interactions between the student and different systems in a college environment. These social and academic areas also influence students' decisions to stay enrolled.

Alexander Astin (1993) also studied longitudinal data regarding how students progress academically over time, using student data from diverse institutions. Astin completed a follow-up book to explain his theory of college influences on a student. He expanded his original theoretical framework and focused on if, where, and how students would attend college. Astin embraced student change as a general concept regarding how college actually impacts or develops a student. Continuing his work from prior research, Astin used the input-environment-outcome (I-E-O) model as a guide to understanding student development. Astin developed the instrument in 1962, and it was refined through several studies, but the basic fundamentals of the model review the initial (I) entry characteristics, the type of experiences (E) students encounter while in college, and the outcomes (O) of those experiences. High school GPAs, standardized test scores, preliminary career choices, parental education, parental income, and other demographic characteristics are just a few examples of input variables used in the I-E-O model. Tinto, Astin, and Pascarella and Terenzini used models that required longitudinal data to show the complex progression of a student's progression in college.

Tinto believed that there was a critical time period in which, what happens to students during their collegiate experience can have a positive or negative affect on their ability or decision to stay enrolled. Astin (1993) also measured a student's environment to explain his theory of student retention. He was able to measure environments by studying different faculty characteristics, financial aid offers, living spaces, and academic disciplines. The final part of his model dealt with student outcomes. Astin gathered data from students' scores on graduate, law, medical and teacher exams. He used a multiple regression analysis to obtain predicted scores. The study showed that freshmen pre-test

scores were typically good predictive indicators for corresponding post-test outcome measures. However, this study was limited because it could not report separate models for different sub-groups such as gender, race, or socioeconomic status.

Twenty years after Tinto's original theoretical model was published, a study was conducted by Braxton, Sullivan, and Johnson (1997) to assess the outcomes and variables used in Tinto's research. Reviewing Tinto's conceptual diagram regarding college dropouts (see Figure 1), academic integration was shown to develop intellectual ability. Tinto's model places academic integration after students' initial goal commitment. His diagram supported the belief that "the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college" (Tinto, 1975, p. 94). Tinto (1975) believed that through experiences or interactions with peers, faculty, or administration, students' academic performance can be assessed by GPA or other learning outcomes in college. However, Braxton et al. (1997) found minor support for academic integration as a factor that predicts student withdrawal. A possible explanation given is related to Tinto's "parallel between the process of student departure from college and Durkheim's explanation for suicide" (Braxton, Hirschy, & McClendon, 2004, p. 18).

Berger and Braxton (1998) elaborated on Tinto's theoretical model to examine the role an organization plays in a student's decision to continue enrollment. More focus was placed on institutional characteristics like size, selectivity from an admission standpoint, and other campus climate attributes. Berger and Braxton (1998) refer to student retention as a "departure puzzle" which encompasses many different variables, or pieces, which help explain why a student may withdraw or stop attending an institution. The authors

argued that social integration is a piece to the departure puzzle, but felt social integration could be better explained through theory integration. They defined theory integration as an act of combining “two empirically supported theories explaining the same phenomenon” to develop a more comprehensive approach (p. 105). Using longitudinal data, the study used student characteristics, commitment to the institution, organizational attributes, and withdrawal decisions as the variables of interest. Other instruments were used to measure faculty behaviors, perceptions of college environment, and satisfaction. Berger and Braxton (1998) reported that organizational attributes contribute to students’ commitment to continuing their enrollment, and a college setting can play a part in the departure puzzle. A limitation in this study was that research was conducted based on the student’s intent to continue enrollment, and not on actual enrollment for the following year.

Braxton and Lien (2000) conducted more research to better understand the support, or lack of support, for academic integration and student persistence in college. They found that the type of institution studied could play a factor with academic integration, influencing institutional commitment and continuing enrollment. They explained that the measurement of academic integration should be reconsidered in an effort to produce stronger support for studies conducted at single-institutions versus nationally. Braxton and Lien (2000) articulate that Tinto’s 1975 model “does not account for intellectual isolation or collective affiliation as a form of academic integration” (p. 24). When studying different types of student body populations, researchers may find that students who are less likely to enroll in continuing semesters may feel like they cannot meet the academic standards or expectations of the institution.

Another study was conducted to see if economic reasons, including students' financial situations, could be an additional part of Tinto's persistence model. St. John, Cabrera, Nora, and Asker (2000) studied different economic models of student persistence, including models discussing social fit and financial assistances from federal or institutional funds. The researchers found that earlier economic models on persistence focused on financial aid awards, instead of seeing the different aspects of how financial aid can have on a student's decision to enroll in college, such as working full-time while in college and perceptions on students' ability to afford college. When reviewing student fit, they believed that "student support systems, interactions with faculty, and affective outcomes associated with college" were not considered in economic studies (p. 32). They found that commitment to pay for college, or even students' actual financial stability, could influence their decision to enroll in college and were clearer indicators of student fit and persistence.

Additionally, Tinto's theory of student withdrawal was further reviewed for economic factors by Braxton et al. (2004). They believed that Tinto's theoretical model provides explanation regarding "student departure within a college or university and that it is not intended to explain systems departure" (p. 12). This would mean that Tinto's theory may only explain departure for a particular type of student and not be universal for all types of students. They supported Tinto's theory that a student's individual characteristics and social integration do influence persistence. The authors focused more discussion on external factors that could contribute a student's decision to enroll the next semester or year. Certain external factors from this study included family, work environment, and community influence. This is similar to research of Chen and

DesJardins (2008) who studied how financial aid influences student retention. They also used longitudinal data and found that financial factors should be included in a model illustrating student dropout. Their theoretical model also begins with student pre-cursor characteristics like gender and ethnicity, as well as educational aspiration. However, their research indicated that there are direct and indirect effects between a student's view of higher education as an investment and other economic factors such as tuition fees, family income, and amount of financial assistance awarded.

Individual Precursor Attribute and Background Characteristics

After reviewing Tinto's theoretical model and other research that has supported or challenged his findings in student retention, the literature showed that most of the criticism of Tinto's theory occurs after students enroll in college, and with the interactions they have or do not have while attending. The criticism is focused on academic and social integration, or how a student's financial situation can play a part in the withdrawal process. However, there is one common thread present throughout the literature: most retention models explaining which students withdraw or continue enrollment start with a student's individual precursor characteristics. Adapting Tinto's 1975 model to include a student's academic preparedness from high school, research is discussed to show how gender, race, financial and family background also influence student persistence and retention.

Academic Preparedness

Tinto (1975) described academic preparedness from high school as pre-college school. This research used standardized tests and high school grade point average (GPA) to measure students' academic ability. Standardized tests, or college admissions tests,

typically refer to scores which students earn from the Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT). According to the United States Department of Education (2012a), the National Center for Education Statistics (NCES) projected that the number of high school graduates for 2012-2013 is lower than 2009-10, while GPAs for both male and female students are higher. SAT scores in 2011-12 for math rose by three points from 1998-99, while critical reading decreased by nine points. The Department of Education explains that both SAT and ACT tests are designed to measure how well students will do in college. Arguments have been made that America has smarter high school graduates, while others have credited the increase to grade inflation (U.S. News, 2014a).

Studies have reported that high school GPA is more significant than standardized test scores, when predicting a student's academic ability to continue enrollment in college (Astin, 1993; Chen & St. John, 2011; DeBerard et al., 2004). However, academic ability can also be defined outside of high school GPA. Gifford et al. (2006) expanded the definition of high school GPA, explaining that academic achievement could also be related to locus of control. Locus of control was defined as referring "to a person's beliefs about control over life events" (p. 20). They felt that if students had a higher belief in themselves, it may positively influence academic success. Also, high scores reported on locus of control models were related to students with better study skills than their peers. In their study, both locus of control scores and ACT scores were related to students' college GPA during their first year. Results also showed that higher college GPAs were another positive indicator for student retention. Similar studies using longitudinal data have also found college student GPA to predict persistence and student

success (Astin, 1993; Chen & St. John, 2011; DeBerard et al., 2004). Whereas Jamelske (2009) defined academic achievement through a student's high school rank. For this study, high school rank was defined as a student's high school class rank in percent which is typically assigned based on the actual high school GPA. Jamelske (2009) found that students with higher rankings were more likely to persist to their second year of college. And finally, Ishitani (2006) defined pre-college academic ability using high school rank and the type of high school broken into quintiles or five different groups. This study found lower high school class rank and academic intensity to be significantly associated with withdrawal.

Gender

Just like academic preparedness, gender is an attribute that has been noted to influence student retention in post-secondary institutions. As mentioned earlier, more female students have been enrolling than males in post-secondary institutions in the United States. The same was true for the state of Mississippi with public four-year institutions, reporting 58% of enrolled students and 61% of degree recipients were female (Mississippi Institutions of Higher Learning, 2013a). A common term used in literature to explain this phenomenon is the gender gap of higher education (Buchmann & DiPrete, 2006). This growing trend of more women obtaining degrees is not only affecting higher education, but also has the potential to impact "labor markets, marriage markets, family formation, and other arenas" (Buchmann & DiPrete, 2006, p. 516). The growing gender gap is being studied as early as when students choose which college to attend, and why students attend a university. Jacob (2002) mentioned that male and female students have different viewpoints when deciding on an education after high school. The study showed

that more men disliked school and thought that obtaining a degree after high school was not needed to earn a living. Kleinfeld (2009) found that women are more likely to choose a college because they wanted a meaningful job that would help society. They also wanted to do what was expected of them and not have to rely on a man to take care of their future. Female students were also more likely to use campus support offices when they needed help (DeBerard et al., 2004). If the majority of students enrolling are female, then researchers and university officials should continue to search for reasons as to why male students, in particular, are less likely to continue their enrollment in college.

When reviewing retention and persistence literature, studies have found students' gender to significantly contribute to their decision to continue enrollment in higher education after their first year. Johnson (1996) conducted a study to compare male and female students who withdrew from a large public institution. These two groups were analyzed based on both pre-cursor demographics and experiences. Reports showed that male students were more likely than female students to be required to leave because they failed to meet institutional standards. On the other hand, female students were more likely to voluntarily withdraw. Both male and female students who did not meet university standards and were required to leave often reported having poor study habits; however, this statement occurred more often in male students. Research also reported that female students were more likely to withdraw from an institution, if they did not have a positive experience integrating into the social environment (Johnson, 1996; Pascarella & Terenzini, 1980). A similar study reviewing college persistence found that women were more "motivated by their post-college professional goals than were males" (Morales, 2008, p. 203). However, Pascarella and Terenzini (1980) found that men

withdrew more often than females due to a lack of institutional and goal commitments. This can be connected to Tinto's model of goal commitment and student persistence.

Several studies have been conducted to determine if academic major and environment have an influence in male and female withdrawal from college (Alon & Gelbgiser, 2011; Johnson, 1996; Mastekaasa & Smeby, 2008; Pascarella & Terenzini, 2005). Mastekaasa and Smeby (2008) explained the issue of gender segregation where men and women choose to enroll or withdraw from different academic programs. The study provided support that more women persist in female-dominated programs at a higher rate than women who withdraw from a male-dominated program. Whereas Johnson (1996) stated that male students were more likely to withdraw if their academic interests were in science, and female students withdrew consistently across academic disciplines. Alon and Gelbgiser (2011) studied the choice of major, and how it could affect student success and graduation, using longitudinal data over six-years. They reported that male students are more likely to enroll in majors where grades and graduation rates are lower, while women selected academic fields with a more supportive social climates. When analyzing academic environment within certain fields, Alon and Gelbgiser (2011) found that women were more likely to major in a female-dominated field, but both men and women are successful in those courses. On the other hand, men were more likely to enroll in math and science courses where grading policies were generally strict and straightforward. In addition, men favor academic programs that provide higher income jobs after graduation (Pascarella & Terenzini, 2005). The research provided support that a student's academic major can play a role in gender inequality at the collegiate level.

A student's choice of academic major or gender-dominated courses could also be related to different interactions between the student and faculty members. If more interaction occurs with faculty members, the institution could be seen as having a supportive environment. A study found that male students voluntarily collaborated with faculty research, whereas females tended to work on faculty research projects for course credit (Kim & Sax, 2009). This study also found that female students preferred communication with their faculty members through email or outside of classroom experiences, while males favored face-to-face contact in a lecture environment. However, college grade point averages and satisfaction for both male and female students were higher when they interacted with faculty members about their course of study. A similar finding was reported that female students were more likely to enjoy the social environment of female-dominated programs. Morales (2008) also reported that male students preferred the same gender when interacting with a mentor or adult supporter. These findings could be compared to Tinto's theory where social integration is an integral part in student persistence.

Ethnicity

According to Tison, Bateman, and Culver (2011), gender could affect a student's pursuit of higher education, academic interest, and level of engagement throughout the student's educational career. The same can be seen in the retention literature regarding a student's racial background. For instance, Dancy (2011) conducted a study to explore African American males and what influences their college decisions. Results showed how family dynamics, diversity amongst the leadership roles at the institution, and mentoring opportunities had an influence on this population's college experiences.

Another study reported that minority students are more likely to wait until they are not allowed to return to the institution, whereas the majority of students were more likely to withdraw voluntarily early on in their college career (Arnold, 2012). Also, Rodgers (2013) and Ishitani (2006) found minority students were less likely to continue their education and obtain a Bachelor's degree, compared to other students.

Relating to Tinto's theoretical model and social integration, different types of social interactions and experiences were found to be significant for minority students to persist to their second year of college (Baker & Robnett, 2012; Hall, Cabrera, & Milem, 2011; Morales, 2008; Palmer, Maramba, & Dancy, 2011). Research found social integration to be more influential in minority students' retention than the individual high school experiences and background (Baker & Robnett, 2012). One type of social interaction that was well perceived by students of color was peer mentoring relationships in college. According to Palmer et al. (2011), peer interactions contributed both to students' academic and social integration and helped them be more successful in college. However, another study showed that interacting with a group of peers made no difference in minority groups. Both minority and majority students "reported similar levels of positive interactions with diverse" peers (Hall et al., 2011, p. 435). Morales (2008) also found that mentoring relationships could be a positive influence for students of color, in particular for female students. The study showed that the "quality of mentoring superseded the sharing of the same gender" for both female and male students (p. 209). Morales pointed out that the male students in the sample were less likely to live in a household with both parents, which may contribute to the fact that these male students wanted a male role model.

In regards to campus climate and a student's interactions in their academic discipline, Kim and Sax (2009) found that Asian Americans were more likely than any other race to help faculty with their research projects, but were less likely to talk with professors regarding their classes. While African American students communicated most often with professors regarding their curriculum, Latino students' level of cultural appreciation decreased due to increases in research-based faculty interactions. Cultural awareness was defined by students' ability to appreciate diversity, self-awareness and understanding, appreciate fine arts, and awareness of interpersonal skills (Kim & Sax, 2009). Kim and Sax (2009) explained that this may be a result of having less time to be involved in student organizations that could develop cultural awareness. However, for all racial groups, this study found that faculty interactions positively influenced a student's grade point average and likelihood to complete a degree. Differences in minority populations could be seen because African American and Latino students find different aspects of the campus influential in their commitment to the institution (Hall et al., 2011).

Family Background Characteristics including Education Level and Income

When reviewing literature regarding ethnicity and how this individual precursor characteristic affects student success in higher education, researchers have indicated that income can also impact college persistence (Chen & desJardins, 2008; Chen & St. John, 2011; Johnson, 1996; Rodgers, 2013; St. John, Paulsen, & Carter, 2005). Chen and St. John (2011) stated that a student's socioeconomic status (SES) could impact the likelihood he/she would continue enrollment towards a post-secondary degree. Results showed that students with a high-SES were 55% more likely to continue enrollment, rather than students with a lower SES. It seemed as if a student's financial situation is

sometimes connected with a student's gender and racial background. Johnson (1996) reported that female students "were more likely than males to report having experienced financial problems during their university attendance" (p. 39). On the other hand, both male and female students who withdrew voluntarily acknowledged some form of financial struggle in college. Harrison (2006) found that low-income male students were more likely to report having financial issues and therefore chose an institution for its location, with one reason focused on financial support from students' families. In regards to ethnicity, Rodgers (2013) found that financial problems are more likely to affect the African American student population. These financial issues could lead to withdrawal and influence the retention rate of this population. Research also suggested that African and Asian Americans were positively influenced by non-need based financial aid policies, more so than Caucasian students (Chen & St. John, 2011). Another study found that more African Americans used financial assistance and evaluated costs when initially deciding to enroll in college, while Caucasian students were more likely to attend high tuition institutions (St. John et al., 2005). This same study also found that African American students were more likely to withdraw due to insufficient funds to afford college. However, Chen and DesJardins (2008) found no difference in withdrawal outcomes relating to ethnicity or gender when reviewing financial situations.

When calculating students' and/or their family's ability to afford a college education, institutions of higher learning use the Free Application for Federal Student Aid (FAFSA). Completion of this application allows eligible students to be awarded federal financial assistance which includes, but is not limited to, grants, loans, and work-study funds (U.S. Department of Education, 2010a). Without such financial assistance,

some students may not be able to afford one year of college, much less continue enrollment for the four to five years needed in order to earn a Bachelor's Degree. In the state of Mississippi during the 2012-2013 academic year, the Mississippi Office of Student Financial Aid was able to award \$35.4 million to students seeking some form of education. This was a 9.23% increase over the previous year (Mississippi Institution of Higher Learning, 2013b). In order to determine a student's need for some federal financial assistance, the federal government computes a student's Expected Family Contribution (EFC). This EFC status is especially important when awarding Federal Pell Grants to undergraduate students. This type of assistance is different from student loans because a student would not have to repay the government (U.S. Department of Education, 2010b). According to St. John (2000), Federal Pell Grants were originally designed to promote access to college for low-income students; however, the decline in government funding results in more students having to acquire loans to continue enrollment.

According to the United States Department of Education (2013c), the NCES reported the cost of attending a public institution of higher education increased by 40% within the last ten years. If or when a student makes the decision to enroll in a college or university, they may have acquired sufficient financial assistance to cover all necessary and essential fees for the first year. However, the student may need to reevaluate their finances each year in order to continue enrollment and graduate (St. John, 2000). St. John (2000) also reported that government assistance like Pell Grants were no longer adequate for the rising costs of tuition and found that public institutions may need to

develop their own strategies to help students afford college. The research concluded that financial assistance had a significant relationship in student persistence and college choice.

Chen and St. John (2011) conducted a study to see if state funding policies supported equal access to higher education amongst all student populations and to see which students graduate with a Bachelor's Degree. They found that non-need based grants positively impacted student retention, whereas need-based grants had no significant influence. Results also showed that awarding financial assistance could improve the institution's persistence rate. Improvement could be made if institutions focused on the ratio index of state need-based financial assistance and tuition costs. Another study reviewing financial aid and student withdrawal was conducted to specifically test if parental income had any impact on college dropout. Chen and DesJardins (2008) found that "38 percent of low-income students dropped out of institutions," whereas the higher-income students were less likely to withdraw from college (p. 10). Results also reported that students receiving Pell Grants, which are typically awarded to students from low-income families, had a significant relationship with student persistence. On the other hand, students who were not eligible for Pell Grants but were in the middle-income bracket were more likely to withdraw from college. This supports the conclusion that financial aid and family income does play a part in a student's decision to stay enrolled.

Another factor that could link family income to student persistence is the education level of the student's parents and family. According to the United States Department of Education (2013b), the NCES reported that young adults' income level

with a Bachelor's Degree was over \$15,000 more than those with only a high school diploma. Therefore, studies have been done to analyze the influence in which parental education can play in a student's ability to stay enrolled in college (Chen & DesJardins, 2008; Gibbons & Woodside, 2014; Ishitani, 2003; Ishitani, 2006; Lowery-Hart & Pacheco, 2011). The more education a parent has earned, the more the student is likely to persist in higher education and complete a degree (Chen & DesJardins, 2008). In the literature, researchers have used different explanations when defining first-generation college students. When studying first-generation college students, it is important to understand how each researcher has defined this group in order to better grasp the experiences of the student and/or family members. For example, Ishitani (2006) studied first-generation students and divided the students into two groups. The first group was for students whose parents never attended college, and whose educational level was no higher than high school. The second group of students had parents who enrolled in post-secondary institutions but never obtained a Bachelor's Degree.

Ishitani (2003) used longitudinal data to explain how different levels of family income and educational goals can significantly influence a student's decision to withdraw or remain enrolled in college. This study used precursor characteristics coupled with the student's college grade point average, financial aid award, family income, and education levels to test the influence in which these factors had on enrollment. Students in cases where both parents obtained a college degree had the highest retention during the first year of college. By the sixth semester, first-generation students were 22% less likely to persist to the next semester. Ishitani (2006) conducted additional research to further the findings on first-generation college students and their retention. Results found that first-

generation students were more likely to not obtain a Bachelor's Degree and the majority of this population withdrew during their sophomore year of college. This was also true with students whose parents completed some type of college work. However, controlling for all other variables, Ishitani found that low-income students were still the highest group to drop out during their first year of college. In regards to degree completion, this same study found first-generation students were "51% and 32% less likely to graduate in the fourth or fifth years than were students whose parents graduated from college" (Ishitani, 2006, p. 877).

Another study focused on first-generation students and their ability to be successful in college. According to Lowery-Hart and Pacheco (2011), this minority population felt tension between their personal identity and social expectations to adapt to the college environment. Participants expressed how their family background or way of life was different from others in college, and that they sometimes felt scared or uncertain when in academic or social settings. These students may also avoid using support programs for fear of being perceived as different or not understood. First-generation students also expressed the idea that integrating into a collegiate or mainstream environment was difficult, yet understood it was important. Relating this study to Tinto's theoretical model, social integration was an integral part of students' persistence through college. If first-generation students have a hard time connecting or adapting to college settings, these students may not be able to find their place and may be more likely to withdraw from college.

Gibbons and Woodside (2014) conducted a study on first-generation college students whose parents had no additional education beyond high school. Researchers

were able to distinguish three common themes amongst the students: relationship with the father, expectations about career, and beliefs about college. The role of the father played a significant role in the student's life whether as the breadwinner for the family, future expectations, or in words of advice that the father gave to his child. Similarly, Jacob (2002) also indicated that a student's family background could influence a student's decision to attend a post-secondary institution. If a student was raised in a single-parent home, or did not have a significant male role model, that male student was less likely to enroll in college. The second theme concerning a student's expectation about their future career had a common thread of enjoying a career and making it more important than the salary earned. Participants also discussed a strong work ethic as something that is important to being successful, and felt that an education would help secure a better career. The final theme related to a student's expectation of college itself. Narratives provided different examples, but all suggested that their parents expected them to attend college to have a more successful career. Female students stated that mentoring relationships were helpful to their collegiate success as a first-generation student.

Individual Behavioral Characteristics

Student Engagement and Motivation in High School

When identifying at-risk students in higher education before they begin their first year, researchers should consider the level of engagement or level of motivation students have while in high school. Having motivation to achieve in college has been demonstrated to be a significantly strong predictor in college GPA (Robbins et al., 2004). Hsieh and Hu (2005) found that motivation should be considered when administering admission or entrance exams. In a qualitative study conducted at one medium-sized high

school, Knesting (2008) interviewed 9th – 12th grade students who were at-risk of dropping out of high school, teachers and administrators of the school. Students expressed that they did enjoy school but found that it was harder to engage in classrooms where teachers were more concerned about discipline, or getting a paycheck versus teaching the curriculum. Students communicated that some teachers did not seem to care if they succeed in their classroom and only wanted to help the students that they liked. This study also showed discrepancies between policies of the high school and what administrators communicated in their interviews. It appeared that administrators did believe that not all students should graduate and may have encouraged certain students to dropout. The lack of support from administrators was shown to relate to a student's level of engagement in the classroom.

In another study which primarily looked at African Americans and their persistence in high school, Roderick (2003) found that the most successful group of students were engaged in classes and sought support from teachers when needed. They also had family support which allowed students to stay motivated even when academics were difficult. This study used a mixed-method approach to analyze African American students in high school and the effects on school engagement. Thirty-two African American students were studied using longitudinal data, and 15 African American males were interviewed to find a more in-depth look at their experiences in high school. This study found that African American male students had higher rates in failing their courses and dropout rates than female students, while male students showed a harder time adjusting to the high school academic experience than female students. From the quantitative results, Roderick (2003) conducted interviews with African American males

to further examine the trends in their behavior and performance in high school. Three different groups emerged from the data. The first group of students left high school early on and had low academic skills, a hard time adjusting to teaching methods, and an avoidance behavior. These male students often went to school but did not attend class where their peers were more of an influence than academics. When focusing on parental involvement, results showed a lack of support or “confusion as to how to support adolescent males who have low skills and learning barriers” (Roderick, 2003, p. 560). The second group of students left school around 11th or 12th grade. These male students had stronger academic skills from the first group, but their family life was stressful. Their academic performance suffered overtime because they expressed an inability to cope with different teachers, and therefore adapted their level of engagement in class. The main reason for failing courses for this group of students was class attendance. The final group of students was found to have the same academic capabilities as the others in the study. However, these students had strong family support, students took responsibility for their academics, teachers recognized their effort and saw them as individuals rather than stereotypes, and students found an identity to distinguish them from their peers.

Another study conducted to analyze student motivation used a single population of 160 American Indian/Alaska Native first-year students (House, 2003). These students’ high school experiences, self-belief and achievement expectancies were analyzed to see how experiences related to their college grade point average. Correlation coefficients and least-squares multiple regression were used to examine predicted variables and found that students with higher self-confidence and drive to achieve were more successful academically in college. “Student self-rating of overall academic ability was the first

variable to enter the regression equation as the most significant predictor variable” (House, 2003, p. 307). This study reported that students’ drive to achieve may be the motivation that is needed to reach educational goals.

Goal Commitment and Student Procrastination

As mentioned earlier, goal commitment can influence student withdrawal in Tinto’s 1975 model [see Figure 1]. Wolters (2004) studied achievement goal theory on 525 junior high students to see if goal structures affected motivation, engagement and academic achievement. Results reported that academic settings could produce different types of goals for students to obtain, but found mixed support in how students reached these outcomes. The conclusion was drawn that an environment with a priority of student success can promote a student’s ability to engage and complete goals in a timely manner. House (2003) found that American Indian and Alaska Native students were more likely to have higher grade point averages in college if they expected or had a goal of graduating with honors. Olive (2008) conducted a qualitative study to identify and understand the desires of first-generation Hispanic students enrolled in a Student Support Services or TRIO program at Sul Ross State University. Olive reported that a desire to achieve, or have a sense of future goal orientation were essential for first-generation students when considering to attend college. When reviewing long-term goal orientation, the study found that families of first-generation students may support students who begin working instead of attending college. Results showed that a student’s desire for education was worth the possibility of emotional discomfort with the student’s family. Other results showed that successful experiences in high school, helping others, and respected role models played a part in a student’s desire for higher education.

In regards to post-secondary education, students may have the opportunity to set individual goals such as making good grades and graduating in four years which may require students to make certain choices throughout their collegiate career. College students are faced with many decisions; for example, they must choose where to attend college, what academic program to declare, if they should attend class, what assignments to complete, or when to study for exams. Vohs et al. (2008) studied how people's choices and decisions can influence self-control and self-regulation. Choice was referred to as "conscious consideration among alternatives" (p. 884) and self-regulation as "self-exerting control to override a preponent response" (p. 884). Observations from six different experimental procedures showed that when people make decisions, they use psychological resources that can lead to having less self-control. If students in college make the choice to delay an action, this could be seen as procrastination. Examples of procrastination can be seen when students postpone applying to an institution, delay studying for exams, complete assignments after a deadline, or delay the ultimate goal of graduation.

Bahr (2009) conducted a study to examine procrastination and student enrollment trends. The study discussed the importance of understanding and researching students' progression through different enrollment patterns, including but not limited to, number of credit hours completed in college, delay of enrollment in basic subject areas like English and math, and how many courses students completed versus attempted at the end of a semester. An example of procrastination could be seen in students who did not complete enrollment patterns in the time period expected. Bahr (2009) used discrete-time event history analysis to analyze how students progress through these enrollment benchmarks,

and how they achieved certain objectives towards persistence and degree obtainment.

Over a six-year time span, data were analyzed from a 1995 cohort with over 60,000 first-time freshmen at a community college in California enrolled in remedial math. Research concluded that rate of progress or lack of progress is a fundamental concept of student persistence, and more research should be conducted on student procrastination.

Beck, Koons, and Milgrim (2000) also studied student procrastination and how this behavior could lead towards lower test grades. A relationship was found between students' attitudes regarding their ability to succeed and their self-consciousness, procrastination and self-handicapping. Self-handicapping is defined when "individuals put off studying so that they may attribute their test failure to lack of studying rather than their personal intellectual deficits" (Beck et al., 2000, p. 4). Data were collected on 411 undergraduates from a medium-sized, rural, public university enrolled, in a psychology course. Students were asked about preparation for weekly reading assignments, study habits, and attitudes towards outcomes regarding their performances. Results found that students who reported higher procrastination behaviors studied less often than students with lower procrastination levels. Beck et al. (2000) reported that "individuals who have a proclivity towards procrastination realize that they may also use this behavior as an excuse for subsequent poor test performance" (p. 7). A second experiment was conducted using data from 169 undergraduates in a psychology course. This experiment analyzed data on personality factors, test-taking behaviors and SAT scores. Results showed students with high-self-esteem and a high level of self-handicapping delay more often with exam preparation. However, a three-way interaction between SAT scores, class attendance, and procrastination level was found to be significant on test performance.

Since prior literature regarding student retention has shown that there are many facets to why students may leave an institution, additional research should be conducted to see if procrastination and the lack of choices that students make could influence the likelihood in student persistence and degree completion.

College Choice and Institutional Commitment

Tinto (1975) used institutional commitment to illustrate “whether the person’s educational expectations involved any specific institutional components which predisposed him [her] toward attending one institution rather than another” (p. 93). Over time, research has been conducted to see what factors influence college choice or institutional commitment (Bergeson, 2009; Davis, Nagle, Richards, & Awokoya, 2013; Herndon, 2012; Pitre, 2006; Robbins et al., 2004; Simões & Soares, 2010). A study was conducted at a public university in Portugal to examine variables that influenced 1,641 students’ decision to apply to a college or university (Simões & Soares, 2010). Results showed that location of an institution and academic reputation were ranked highly when identifying factors that contributed to college choice. Simões and Soares (2010) also found that students used social networking and interpersonal relationships like high school counselors or teachers when gathering information on which institution to attend.

A study was conducted of 241 high school students to examine their perceptions of college attendance and preparation for college (Pitre, 2006). This study found that race had no significant relationship when comparing African American students’ aspiration to attend college and Caucasian students. Students were less likely to seek college enrollment if they perceived their high school education inadequately prepared

them for post-secondary learning. It reported that African Americans have similar aspirations to attend college, but may not be as knowledgeable of the college admissions criteria and lack the same skills, when transitioning during their first year of college.

To help students make smarter choices when selecting a college or university, Herndon (2012) suggested that institutions of higher learning should provide information about paying for college and finding the right major or career path. These areas were found to be influential for students when researching higher education institutions. Robbins et al. (2004) examined the college selection process and established that financial support and institutional selectivity were constructs that correlated with retention. Financial construct was determined by “the extent to which students were supported financially by an institution” and institutional selectivity was seen as “the extent an institution sets high standards for selecting new students” (Robbins et al., 2004, p. 267). Specifically, this study reported that “available financial resources and hours planned on working during school were key predictors of admissions decisions” (p. 275).

When focusing on financial commitment when choosing a college or university, Bergerson (2009) found that Caucasian students whose family had high to high-middle income and graduated from college were more likely to enroll in higher education. Bergerson argued that information gathering was an important component of selecting a college or university, and low-income, minority students may not have the same access or experiences with educated family members, relationships with high school counselors, or college-bound peers. Therefore, institutions would have to outline an accurate picture of how students would weigh the costs and benefits of a college degree in order to attract more low-income, minority students. Davis et al. (2013) agreed that the “role of federal,

state, institutional, and private grant aid has been increasingly important for students from low- and moderate-incomes to attend the college of their choice” (p. 226). Three-hundred-and-forty-three high-achieving African American students with significant financial need, receiving a scholarship through the Gates Millennium Scholars Program, were surveyed about their college selection process. For students enrolling in the institution, they expressed that university financial assistance, reputation, affordability, academic programs or majors offered, family pressure, and location were influential in their decision-making process. Similarly, this study also found that college reputation, college major offering, and college location were important when students were selecting their first-choice institution (Davis et al., 2013).

Student Expectations and Adjustment to Higher Education

Prior research has reported on the “freshman myth”, referring to first-year students not having their expectations match their actual collegiate experiences in a positive way (Gerdes & Mallinckrodt, 1994; Harrison, 2006; Lowis & Castley, 2008). Gerdes and Mallinckrodt (1994) discussed students’ adjustment to college, including their expectations to see how it relates to persistence and retention, and found that students’ expectations of college can have significant effect on college completion. They claimed that a student’s academic ability was more than grades and standardized tests, and it involved other areas like “motivation to learn, taking action to meet academic demands and a clear sense of purposes” to see their true potential (p. 281). In relationship to academic expectations, this study found that students tend to overestimate their ability to adjust to the academic classroom, whereas they underestimate their ability

to make social interactions. Lowis and Castley (2008) reported that students had an unrealistic idea of what was actually required of them in order to do well in a college environment, and students needed professors to spend more time explaining their expectations for how to do well in the classroom.

Another study also found student expectations to be an indicator of dropping out of college (Ishitani, 2006). However, this study explained that students with low expectations of completing a degree were more likely to stop attending during their first year, while students who were unsure of their ability to finish college stopped out during their second year. Research also found that students expected their finances to cover an unrealistic amount of tuition and fees. The failure to afford certain things in college resulted in some students' inability to connect with a social group. Other students found that if they could adjust their expectations of college and budget wisely, they were better able to integrate socially (Harrison, 2006). Therefore, student's expectations regarding their future college experiences and outcomes should also be considered when studying retention issues in higher education.

Importance of Understanding At-Risk Characteristics

O'Keeffe (2013) described the importance of understanding student attrition and retention in the United States. This study reported that 30% to 50% of the students in the United States are not persisting to their second year of college and American institutions are losing out on federal or state funding. According to the White House (2014), the U.S. was ranked number one in 1990 for attaining a four-year degree among 25-34 year olds; however, the U.S. has fallen to number twelve by 2014. Low-income families are less likely to continue after high school. President Obama has expressed concern about

students' ability to afford college and indicated that an institution of higher learning should be responsible for keeping costs down for students. Institutions may be expected to provide information and help explain the importance of making good financial decisions regarding college attendance. To provide incentives for institutions to take action and produce more graduates, the Race to the Top investment was implemented in hopes that states would review and change their policies and practices regarding higher education.

Research has been conducted to identify strategies to support at-risk students for college and university campuses in order to better understand one area of student retention. This effort has been made in hopes of increasing student retention and producing more successful graduates. Some studies have been conducted on a national level, while others have focused on more regional efforts. Gifford et al. (2006) suggested that "higher education administrators are seeking strategies to identify effective predictors of university academic success that they can use as a part of the admission process" (p. 19). However, research showed that institutions have taken different approaches to identifying at-risk behaviors in their students such as precursor characteristics, goal commitment, academic preparedness, and financial situations to help define an at-risk population. For instance, at-risk can describe individual characteristics that may influence a student's likelihood to continue enrollment, or at-risk can be a more reactive than a proactive approach once the student has withdrawn or been placed on academic probation or suspension (Coll & Stewart, 2008). Being more specific to academic at-risk factors, studies have used several criteria to define academic preparedness. One study defined their academic at-risk population to be students who

have unclear academic goals and are uneasy about their courses and may contemplate withdrawing from or ending college for a period of time (Gerdes & Mallinckrodt, 1994). In contrast, Gifford et al. (2006) used academic ability, in regards to levels of locus of control, and test scores to explain at-risk behaviors during students' first year of college. As noted, results from prior literature regarding at-risk behaviors have been informative on a broader scale, but have lacked information to help specific institutions with their unique populations.

This final section provides examples of studies that conducted studies regarding at-risk indicators, or behaviors for student success. Chen (2012) used longitudinal data for analyzing first time, full-time students from across the nation. Chen's research used student demographics, academic achievement, and socioeconomic status (parental education and income level), as well as certain institutional characteristics which showed that low-SES and minority students were more likely to withdraw during their first year of college. These students typically attended public institutions with low-selectivity in their admission practices. Students were less likely to withdraw if they were integrated into the campus environment and attended an institution with support resources. Another national study also used longitudinal data from four-year institutions (Shaw & Mattern, 2013). They found that students with higher first-year GPAs were more likely to continue enrollment. Results showed that female students and first-generation students admitted to institutions with lower selectivity during admission were less likely to enroll for their second year of college. This study recognized that additional student integration may have altered the findings for at-risk, but researchers explain that such variables are not easily captured (Shaw & Mattern, 2013).

In regards to specific single-institutions, Ishitani (2003) found that students at a public Midwestern university were more likely to withdraw or discontinue enrollment if they were female, from a large town, had a low-income, and were first-generation students whose parents did not obtain a college degree. Laskey and Hetzel (2011) conducted a study at a midsized, private four-year institution and found their at-risk population to be students with an ACT score between 16 and 20, with additional requirements on the university's reading and English placement test. After an interview during which these students showed some potential for success and a writing sample was reviewed, students were admitted to the Conditional Acceptance Program. High school GPA was not found to be significantly important in explaining at-risk behaviors because students' high school curriculum and teacher ability differed. On the other hand, if students sought tutoring or other academic resources on campus, they were more likely to succeed. This study also found that ethnicity and gender did not significantly affect retention (Laskey & Hetzel, 2011). Chen and DesJardins (2008) conducted an exploratory analysis and their results showed "female students, with low educational aspirations, lower first-year college GPAs, and parents who have less than a high school education" were determined to be more at-risk of not persisting (p. 10). Singell and Waddell (2010) used predictive modeling at a public four-year institution to see which students were more at-risk to discontinue enrollment. Their research found that predicting at-risk status early had a significant impact on retention.

If anything, prior literature has provided factors which single institutions could use when trying to identify their own at-risk population, but results prove each institution should be responsible for their own research when finding who is less likely to persist.

This may be due to the complexity of the departure puzzle referred to earlier. O’Keeffe (2013) described the importance of student retention and indicated that policy makers should pay attention to the loss of tuition revenue, state or federal funding policies, as well as the loss in skilled workers for future employment that is affected by fewer college graduates. Bai and Pan (2009) found that students needed more strategic interventions as soon as the students begin their collegiate experience. This strategy should be geared towards specific parts of the student body to fit individual needs in order to increase student retention on college campuses. Similarly, Singell and Waddell (2011) also suggested that “identifying students early with the intent to treat may pay future dividends” if they continue enrollment from one term to the next (p. 558). With this idea of early assistance, other single-institutions should conduct research to see what intervention programs are needed to help their specific student population. In order for institutions to develop effective programs for their specific population, more research is needed to determine if there are any similarities in the type of students withdrawing, or if there are any common reasons that may influence the decision to discontinue enrollment.

In conclusion, prior literature on student withdrawal or retention has mainly used longitudinal designs to analyze different reasons why certain students are more likely to graduate in higher education. Studies have provided research to show how certain precursor characteristics an individual brings with them to college could already be a detriment to their success. These findings have tested Tinto’s theoretical model, including but not limited to, the influence of gender, financial assistance, academic interests, or social integration upon college retention rates. There is also research which supports the ideas of student expectations, and how those initial college outlooks could

influence their ability to be successful in post-secondary learning. However, there is a gap in the literature for studies that evaluate student pre-cursor characteristics and persistence before they begin their college career. Students bring certain attributes and qualities with them to college, and these attributes may influence their ability to continue enrollment even before they interact with faculty, staff, and other students. More studies need to be conducted to help single-institutions more clearly define their population's unique at-risk characteristics, so that effective policies and practices can be established. According to Rogosa (1995), using only two data points or observations regarding longitudinal data does not adequately demonstrate change in development. In order to appropriately measure change over time, longitudinal data analysis needs at least three or more points. When reports showed that “the risk of dropping out is the highest in the first year” (Chen, 2012, p. 500), institutions may not have the time to wait for 4 or 6-year results. With demands for more student revenue, Chen (2012) concluded that administrators on college and university campuses have to think and act fast when developing strategic enrollment plans to help retain their students to graduation, including investment in support services for students.

This study researched a single-institution in the state of Mississippi. Prior literature has demonstrated a wide-range of characteristics that can influence student persistence and retention, and research has shown how different characteristics can vary across different student populations. Other literature has also discussed the complexity of the departure puzzle and indicates that there are several combinations and reasons that influence student withdrawal. There is a lack of information to inform policy makers in the state of Mississippi on how best to reach their specific population. In order to better

recognize students who are more likely to withdraw from The University of Southern Mississippi, this study used Tinto's (1975) theoretical framework and prior literature to identify unique at-risk behaviors for students attending this midsize, public-four year institution, and understand how administrators may use this information to provide additional resources and support for their student body. This study also provided an outline or research procedure that can allow other administrators across the nation to identify at-risk characteristic and behaviors specific to their unique student populations and implement strategic retention initiatives that can help increase student success on their campuses.

CHAPTER III

METHODOLOGY

Overview

The goal of this study was to help higher education administrators obtain a more comprehensive understanding of student persistence in higher education and identify at-risk characteristics that were unique to a student body population. The primary purpose was to predict the probability of group membership as to who was more likely to enroll for a second fall semester, and who would not enroll at The University of Southern Mississippi (USM). After the logistic regression analysis was conducted, the students predicted to not enroll were identified as the at-risk sample of the freshman cohort. Research was conducted at USM in order to better understand common characteristics that influence retention of the freshman cohort from the first year to the second. A mixed method approach was used for this study which employed three phases including analysis of two secondary data sets and one primary data set. The first two phases using quantitative data found variables that identified an at-risk population at USM. The final phase using qualitative data built upon the results of the quantitative data, used in Phase I and II, by exploring policy and best practices for this unique population.

A sequential explanatory strategy (see Figure 2) was used for this mixed method research. Sequential explanatory strategy is “typically used to explain and interpret quantitative results by collecting and analyzing follow-up qualitative data” (Creswell, 2009, p. 211). This mixed methods strategy was most effective because it allowed for a discussion of effective and strategic retention initiatives that could assist a unique student population. Administrators were able to express key characteristics that may influence

students who were more at-risk of not enrolling for their second fall semester. However, a weakness of this strategy was the timeliness between different phases of data collection. In regard to weight or priority in the mixed method design, the researcher chose to place emphasis on the quantitative data analysis and used the qualitative research to support the findings for the at-risk population. Secondary data regarding multiple freshman cohorts were collected and analyzed for the purposes of this study. Primary data regarding administrators' attitudes toward effective and strategic retention initiatives, based on data from Phase I and II, were collected and analyzed for the final portion of this study.

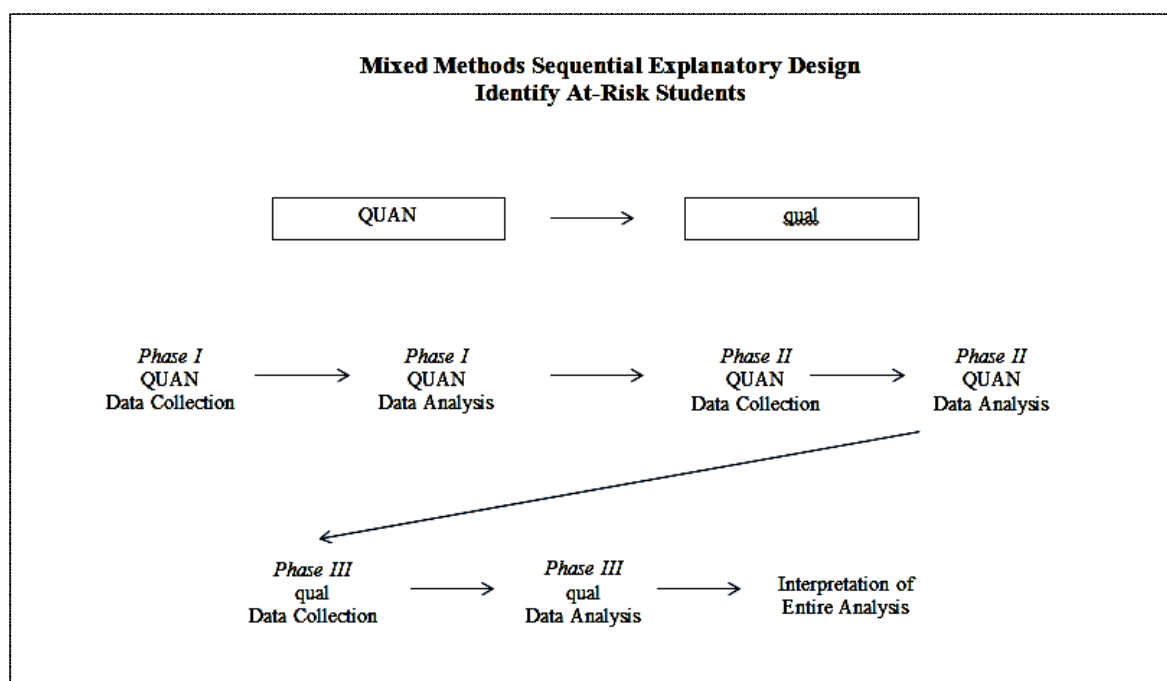


Figure 2. Mixed Methods Sequential Explanatory Design: Identifying At-Risk Students.

Phase I

The following research questions served as a guide for this study utilizing the first phase of secondary data:

1. Was there a relationship between ethnicity and student persistence to the second year of college?

2. Was there a relationship between gender and student persistence to the second year of college?
3. Was there a relationship between parental income and student persistence to the second year of college?
4. Was there a relationship between high school grade point average and student persistence to the second year of college?
5. Was there a relationship between scores on standardized tests and student persistence to the second year of college?
6. Was there a relationship between the time a student has applied and been admitted to the institution and student persistence to the second year of college?

Phase II

The following research questions served as a guide for this study utilizing the second phase of secondary data:

1. Was there a relationship between a student's difficulty in adjusting to the collegiate life and being identified as an at-risk student?
2. Was there a relationship between a student's level of academic engagement in high school and being identified as an at-risk student?
3. Was there a relationship between a student's commitment to the institution and being identified as an at-risk student?
4. Was there a relationship between a student's level of financial commitment and being identified as an at-risk student?

Phase III

The following research questions served as a guide for this study utilizing the final phase of primary data:

1. What population of students did administrators believe are most at-risk of not persisting to their second fall semester at USM?
2. What were administrators doing currently to identify and assist at-risk students to persist at The University of Southern Mississippi?
3. How would having knowledge of a specific set of characteristics that identify at-risk students at their institution affect decisions regarding policy and intervention?

The University of Southern Mississippi Undergraduate Population

USM is a mid-sized public research intensive four-year university. In a state where students scored below all U.S. averages for math, reading, science, and writing scores at the elementary and secondary level (National Assessment of Educational Progress, 2011), USM enrolled 1,746 first-time, full-time freshmen in fall 2013, with an average ACT composite score of 22.0 (Institutional Research, 2013a). The entire undergraduate student body population was just under 12,471, and 85% of the undergraduate students were from the state of Mississippi in 2013. More than 70% of the 2012-2013 freshman cohort at USM was retained to their second fall semester, which was four percentage points less than the previous year. USM's six-year graduation rate was 45.13% in 2012, which represented a decrease of more than 4 percentage points from the previous year (Institutional Research, 2013b). Compared to the 2011 national six-year

graduation rate, USM's rate was 14 points lower for all first-time, full-time undergraduate students than the national U.S. graduation rate (U.S. Department of Education, 2013a).

Participants

First-time, full-time students were the target population for this study because the state of Mississippi identified this group as the freshman cohort. The freshman cohort referred "to the specific population which is studied over a period of time, such as a group of students who enrolled for the first time in the fall of a given year" (Board of Trustees of State Institutions of Higher Learning, 2013, p. 1). Full-time status was defined as students who were enrolled in at least 12 credit hours during the first fall semester at USM. This freshman cohort was the only group of students evaluated when calculating the university retention and graduation rate (Board of Trustees of State Institutions of Higher Learning, 2013). The first phase of data analysis consisted of first-time, full-time undergraduate students from two different academic cohorts: 2012-2013 and 2013-2014. Each cohort size ranged from 1,700 to 1,900 students. The second phase used data from a web-based questionnaire completed by the 2013-2014 and 2014-2015 freshman cohort. Participants were incoming first-time, full-time students for the fall of 2013 and fall 2014 semesters at USM. As mentioned earlier, the 2013-2014 freshman cohort consisted of 1,746 students overall, with an average ACT of 22.0 in which the majority of students were female and Caucasian (Institutional Research, 2013b). The 2014-2015 freshman cohort consisted of 1,607 students, with an average ACT of 22.53 in which the majority of students were female and Caucasian (Institutional Research, 2014). The final phase of this study used criterion-based sampling for the qualitative data.

Administrators with responsibilities and insight into enrollment management and retention at USM were selected for interviews. Participants had knowledge concerning financial aid and scholarships, enrollment trends, recruitment practices, and populations such as first-generation and low-income students.

Phase of Study	Year of Cohort	Population	Sample Size
Phase I (QUAN)	Year 1	2012-2013 Cohort	1,916
	Year 2	2013-2014 Cohort	1,746
Phase II (QUAN)	Year 2	2013-2014 Cohort	1,288
	Year 3	2014-2015 Cohort	1,159
Phase III (qual)	NA	Administrators, faculty, staff	9

Figure 3. Participants Observed when Identifying At-Risk Students.

Instrumentation

The second phase of data analysis was conducted using the 2013 and 2014 New Student Questionnaire (NSQ). Permission was granted from the University of Oklahoma to use the constructs from the 2011 New Student Survey (Appendix A).

New Student Survey – University of Oklahoma

The New Student Survey (NSS) was initially designed to gather demographic data and profiles of the University of Oklahoma's incoming class. In 2013, the University of Oklahoma, a large Midwestern four-year public university, had a student body population of 30,000. The size of the freshman cohort for the fall 2013 was just under 4,000 (Institutional Research and Reporting, 2013). Over the years, researchers have explained

the use of this survey to include an analysis of factors and constructs in order to better predict retention issues on their campus (N. Campbell, personal communication, August 16, 2013).

The New Student Survey measures a variety of characteristics and attitudes pertinent to incoming freshman, including high school experiences, social and academic anxieties associated with the transition to college and other external characteristics, such as financial concerns and institutional preference (J. Pleitz, personal communication, August 14, 2013).

The NSS consisted of 100 items using Likert scales, dichotomous and multiple choice responses. It was developed specifically for the University of Oklahoma, and all constructs were based in Tinto's interactionist theory. Four constructs were established with the NSS to see how these areas influence retention rates: financial concerns, academic engagement, goal commitment, and institutional commitment. The structure was analyzed using Exploratory Factor Analysis (EFA). With an internal reliability estimate or Cronbach's alpha score of .75, financial concern measured the student's expectation of paying for college. This construct referred to items regarding students' financial need, importance of financial aid, tuition costs, and other retention items. Academic Engagement was another construct designed to measure the amount of effort the student invested in high school work. Example items included amount of time studying outside of class, feeling bored in class, being late to class, and attending class without doing homework or assignments. The average Cronbach's alpha score was .70, and Academic Engagement was found to be a significant predictor in retention. The third and fourth constructs of the NSS were both key areas in Tinto's 1975 theoretical

framework and found to be influential when predicting student withdrawal (see Figure 1). Goal Commitment was centered on the student's desire to graduate, and the overall Cronbach's alpha score was .70. Finally, Institutional Commitment was used to measure students' desire to complete a degree at that particular school and contained items about transferring to another school, how many schools students applied to, and if this was the student's first institutional choice. The Cronbach's alpha value was .645 which represents moderate internal reliability.

New Student Questionnaire – The University of Southern Mississippi

The 31 item NSQ (Appendix B) was made available to incoming freshman students during the 2013 and 2014 orientation process at The University of Southern Mississippi. The NSQ was designed and organized to gather information regarding students' high school experiences, expectations of college adjustments, financial commitment, and academic engagement. A few items were adapted from the NSS to better fit the student body population at USM, such as removal of how many students spoke multiple languages. Permission was granted to use the constructs of the NSS at The University of Southern Mississippi. A parental consent form was also developed specifically for this research and made available to parents with incoming freshman students under the age of 18 during the 2013 and 2014 orientation process at USM. Both the NSQ and parental consent form were administered through Qualtrics.com, online survey software to which the College of Education and Psychology maintains a subscription. The first web-page of the questionnaire contained the informed consent for purposes of this research, including an explanation of the purpose and benefits (Appendix C - E). Student identification numbers were used, and it was explained to all participants

that identification numbers would not be listed on any published reports and were only being collected for purposes of this research. Since the goal of this research was to identify at-risk behaviors and allow administrators to implement strategic retention initiatives, student identification numbers were collected in order to connect students with academic support and campus resources. Because student identification numbers were included in the NSQ, participants were given the option on all items to not respond or answer at this time, and it was explained that all information obtained through the NSQ was completely confidential.

Just like the University of Oklahoma's NSS, the NSQ used different scales to measure certain items: Likert and multiple choice answers. The questionnaire included items (Figure 4) that related to academic and social experiences in high school, expectations of college, admissions and college selection process, student financial situations, and disability accommodations that may be needed when enrolled.

Factors	Item Number on 2013 New Student Questionnaire
Adjustment to College	3, 11, 12, 15, 24d, 25, 29, 30
Institutional Commitment	6, 13, 14, 16, 17c-17e
Academic Engagement	7, 9, 10, 23a-23d, 23g
Financial Concerns	8, 17a, 17b, 24a, 24b
Goal Commitment	23e, 23f, 24c, 24e-24g, 28

Figure 4. Factors Outlined in 2013 New Student Questionnaire.

A pilot test was not conducted on this questionnaire since the NSS had been validated, and reliability scores existed for the instrument. The 2013-2014 sample consisted of 1,288 students, and data were used to conduct an EFA to test reliability and validity. The 2014-2015 sample consisted of 1,159 students, and data were used to conduct a Confirmatory Factory Analysis (CFA) to verify the accuracy of the constructs

established during the EFA. The 2014-2015 cohort was also used to predict the probability of students being more at-risk, enrolling or not enrolling, in the fall 2015 semester. These statistical analyses were based on theoretical framework and prior literature to find the best solution or model for the research. Since the NSQ used different item types, a Cronbach's alpha score was not conducted. Factor scores were calculated for regression purposes.

Procedure

Phase I: Secondary Data using multiple freshman cohorts

Based on the theoretical framework and prior literature, data were collected from the university's academic records system, Southern Online Accessible Records (SOAR) to find consistent precursor characteristics that identified the at-risk population at USM. Data were gathered electronically from the Director of Technical Operations in Enrollment Management. Permission was granted from the Associate Vice President for Enrollment Management.

Phase II: Secondary Data focusing on 2013-2014 freshman cohort

Secondary data were collected using the New Student Questionnaire (NSQ). The research study was reviewed by Institutional Review Board (IRB) and approved for a twelve-month period ending in February 2014. The NSQ was first administered at USM during the spring and summer 2013 semesters (Appendix F). A second approval was granted by IRB to connect the NSQ data to the qualitative data, collected during Phase III of this study (Appendix G).

The NSQ was distributed around the time that students were attending orientation events coordinated by the Office of Admissions. Orientation events were held during the

spring and summer semesters, and were not mandatory for students to attend. Seven freshman orientation events were held in 2013, and approximately 250 – 325 students attended each event. Seven freshman orientation events were also held in 2014, and approximately 250 – 325 students attended each event. The majority of students in the freshman cohort were above the age of 18. However, parental consent was requested for students under the age of 18. Risks were minimal or nonexistent. Participants were notified of confidentiality, and that all information obtained in the study was secure. Permission was granted by the Vice President for Student Affairs and the Associate Vice President of Enrollment Management who oversaw the orientation events at the time of data collection.

The NSQ was emailed to students and parents who were registered to attend an orientation event. This initial email explained the purpose of the research and invited them to complete the consent form or questionnaire, prior to their arrival for orientation. Completion of the NSQ was estimated to take 10-15 minutes. Risks and benefits were also explained to all student participants and parents. If time allowed, students and parents were sent a reminder email two days before their orientation event. During the orientation event, both students and parents had the opportunity to complete the questionnaire or consent form. Student and staff were trained to answer any questions or concerns regarding the NSQ and consent form. In fall 2013, classes began on August 21, and the university's Institutional Research (IR) office identified the official freshman cohort in late August 2013. In fall 2014, classes began on August 20th, and IR identified the official cohort in late September 2014. With the official cohort identified, one final email was sent to students and parents that had not completed the NSQ, before the NSQ

was deactivated for participants. Upon submission of the NSQ, students over the age of 18 gave permission for their responses to be used in this study. Responses were not used for any students under the age of 18, without parental consent.

Phase III: Primary Data focusing on administrators at The University of Southern Mississippi

Phase I and II used quantitative methods to identify the at-risk population, including characteristics that influence this group of students at USM. Once data were analyzed, Phase III used a basic descriptive qualitative approach to support the quantitative findings and sought to explore administrator's viewpoints regarding students identified as at-risk of dropping out of school. This basic, interpretive qualitative study focused on "how people interpret their experiences, construct their worlds, and what meaning they attribute to their experiences" (Merriam, 2009, p.23). It is more pragmatic in that research can help inform professionals with descriptive information regarding certain practices (Savin-Baden & Major, 2013).

Face-to-face semi-structured interviews were conducted with nine administrators with responsibilities and insight into enrollment management at USM in order to understand their experiences with the at-risk population and build upon the results of Phase I and II. This basic or pragmatic qualitative research sought to discover and better understand at-risk students and decisions that could affect their persistence. Administrators were purposefully selected to better understand student enrollment issues and needs at USM, using criterion-based sampling. According to Merriam (2009), conducting interviews with participants who have direct experiences with the phenomenon of interest, in this case the student body population, is the primary method

when collecting data in qualitative research. Semi-structured interviews took place on campus and were informed by results found during Phase I and II of this study. Because administrators, faculty, and staff with responsibilities, experience, and knowledge in enrollment and retention initiatives have multiple demands on their time, the interviews were limited to 30 – 45 minutes in length. An interview protocol consisting of open-ended questions was used as a guide to explore a better understanding of the at-risk population through participants who interact and create policies for their student body population (Appendix H). Participants also had a chance to provide dialogue regarding their views on implementing strategic and effective academic and support programs for the purpose of increasing retention rates on college campuses. During the process of research, documents were collected to further explain the at-risk population or retention strategies in place at USM. IRB permission (Appendix I) was obtained to ensure that the participants in Phase III were protected, and participants were asked to sign a consent form before the interviews were conducted (Appendix J).

During the audiotaped interview process, the researcher followed the interview protocol outlined in Creswell (2014), when recording information:

- A heading (date, location, interviewer, interviewee);
- Instructions for the interviewer to follow so that standard procedures are used from one interview to another;
- The questions (typically an ice-breaker question at the beginning followed by four to five questions that are often the subquestions in a qualitative research plan;
- Probes for the four to five questions, to follow up and ask individuals to explain their ideas in more detail;

- A final thank you statement to acknowledge the time the interviewee spent during the interview. (Creswell, 2014, p. 194)

Data Analysis

For Phase I and II, statistical analyses were performed using SPSS version 20.0, with the critical value (p) criteria less than .05.

Phase I: Secondary Data using multiple freshman cohorts

During the first phase of analysis, this study used logistic regression to analyze the secondary data to determine similar precursor characteristics which could predict a student's enrollment for their second fall semester. The predicted probability of students not enrolling for the second fall semester was designated as the at-risk population for this study. Each cohort was examined on its own to see if certain characteristics or variables were significantly related to students not enrolling for the second fall semester at USM. As mentioned earlier, cohort sizes ranged from 1,600 to 1,900 students. Based on the theoretical framework and prior literature, different variables regarding students' precursor characteristics were included in the study: residency, ethnicity, gender, college of study, level of parent education, Federal Pell Grant eligibility, date of admission to institution, high school GPA, and sub-scores for standardized tests. Age was also collected for demographic purposes. The dependent variable was whether first-time, full-time students were enrolled in credit hours for The University of Southern Mississippi for their second fall semester. The dependent variable was dichotomous, assuming each student was in only one group: had hours for the fall, or did not have hours for the fall. Before analysis began, data were screened for missing values and outlying records. If any data were missing, 9 or 99 were used in the missing variable for consistency in data

analysis. Descriptive and frequency statistics were performed for all variables to find the mean scores. Highest frequency was used for the purposes of recoding categorical variables. For each analysis of the cohort, the sample size was evaluated based on the criterion 15 records to 1 variable. The researcher looked for specific variables of interest which predicted the probability of students' enrollment for the second fall semester. Values from the unstandardized coefficient table were reviewed, and values were used in Phase II of this study.

Logistic regression was used to answer the following research questions: (1) Was there a relationship between ethnicity and student persistence? (2) Was there a relationship between gender and student persistence? (3) Was there a relationship between parental income and student persistence? (4) Was there a relationship between high school grade point average and student persistence? (5) Was there a relationship between standardized tests and student persistence? (6) Was there a relationship between the time a student applied and was admitted to the institution and student persistence?

Logistic regression was used since the goal of this phase was to predict the probability of group membership as to who would enroll for a second fall semester, and who would not enroll. The students who were predicted to not enroll were identified as the at-risk sample.

Phase II: Secondary Data focusing on 2013-2014 freshman cohort

Using the 2013 NSQ, an EFA was conducted to find latent variables that were significant when identifying students who were more likely to enroll or not enroll at USM. Logistic regression was then used to analyze the secondary data to find additional factors that explained the at-risk population at The University of Southern Mississippi.

The 2013-2014 freshman cohort was examined using the dependent variable of students who enrolled, or did not enroll at USM for fall 2014. Therefore, the dependent variable was a binary variable, and students were only in one group. Based on the latent variables established during the EFA and variables reported from the best model fit during Phase I, these items were used as the independent variables to conduct another logistic regression analysis. Frequency and descriptive statistics were performed for all variables used to find the mean scores. After finding the best model fit, the researcher conducted a Confirmatory Factor Analysis using data from the 2014 NSQ to ensure the constructs were valid and reliable. The final step during Phase II was to predict the probability of students being at-risk of enrolling, or not enrolling during the fall 2015 semester, using variables from the EFA, CFA, and Phase I logistic regression. Students predicted to not enroll were identified as the at-risk population for the 2014-2015 freshman cohort.

Logistic regression was used to answer the following research questions: (1) Was there a relationship between a student's difficulty adjusting to the collegiate environment and being identified as an at-risk student? (2) Was there a relationship between a student's level of academic engagement in high school and being identified as an at-risk student? (3) Was there a relationship between a student's commitment to the institution and being identified as an at-risk student? (4) Was there a relationship between a student's financial situation and being identified as an at-risk student? Logistic regression was used since the goal of Phase II was to find additional characteristics that could predict the probability of being at-risk of not enrolling during the second fall semester at USM.

Phase III: Primary Data focusing on administrators at The University of Southern Mississippi

Data were used in the final phase to further explore constructs and themes found by the quantitative analysis on at-risk students at USM. Exploration was based on participants' responses to open-ended questions. Using a constant-comparative approach, the researcher conducted interviews, transcribed, analyzed data, and finally compared these to find recurring themes. Responses were organized and prepared by transcribing interviews and typing any field notes taken. The researcher gained a general idea of the responses and recorded basic or general thoughts regarding the overall use of information. Finally, the researcher coded data and found themes during analysis. Once themes were established, the researcher organized items by expected concepts based on prior literature and theory, unexpected concepts, and items that address more complex, over-arching themes, or implementations for future research (Creswell, 2009). The researcher then created descriptions which resulted in major findings from qualitative data analysis and decided how themes connected and should be added to this study. Accuracy in the qualitative findings was checked by documenting the entire procedure and maintaining the protocol for research. The researcher also ensured that coding was accurate and reliable by remaining consistent with terms used. Creswell (2014) outlined eight primary strategies qualitative researchers may use during their study. These validity strategies were established to ensure data were trustworthy and authentic for this study:

- Triangulate data | Researcher examined all sources and built justification for themes which added validity to the study;

- Member checking | Researcher conducted a follow-up interview with participant(s) for a second time to test themes and descriptions for accuracy;
- Discrepant Information | If any conflicting information was found among participants, researcher explained these discrepancies in order to make evidence and findings more realistic. (Creswell, 2014)

Once interviews were analyzed, and validity was confirmed through the strategies listed above, the narrative developed a holistic picture of themes and descriptions that further identified at-risk students in higher education. Findings from Phase III provided depth and explanation of the quantitative findings from Phase I and II. By interviewing administrators, faculty, and staff with insight into retention and enrollment issues at USM, areas for implications for the first two phases and future research were explained. Participants also provided examples of policy implications for future retention initiatives that could be strategically aligned with supporting specific at-risk populations who may enroll at USM in the future. The final phase using a basic, pragmatic qualitative approach was used to answer the following research questions: (1) What population of students were believed to be most at-risk of not persisting to their second fall semester at USM? (2) What were administrators doing to identify and assist at-risk students to persist at The University of Southern Mississippi? (3) How would having knowledge of a specific set of characteristics that identify at-risk students at their institution affect decisions regarding policy and intervention? Basic qualitative research was used because the researcher wanted to inform higher education professionals with descriptive information regarding retention and persistence practices.

CHAPTER IV

ANALYSIS OF DATA

Overview

This chapter presents the results of data analysis using a mixed method sequential explanatory strategy (Figure 2). A model was developed to help institutions identify students who may be at-risk of not enrolling during their second fall semester. The model included three phases to better understand common characteristics which influence retention of the freshman cohort from the first year to the second year at USM. The primary purpose of this research was to predict the probability of group membership as to who was more likely to enroll, or not enroll, during the second fall semester at USM. The students who were predicted to not enroll were identified as the at-risk population of the freshman cohort. The first and second phases of this study used quantitative data to inform qualitative interviews for the final phase of research. Secondary data were used for Phase I and Phase II. Primary data were used for Phase III by conducting interviews over a one-month period from January 2015 to February 2015.

Phase I Analysis

Phase I used SPSS with the critical value (p) criteria less than .05 for statistical analyses. Analyses consisted of four steps to predict the probability of group membership and to see which students were less likely to enroll during the second fall semester at USM:

1. Using data from Year 1, 2012-2013, a logistic regression was conducted to find the best model fit.

2. Using the best model from Year 1, 2012-2013, probability was predicted for group membership using data from Year 2, 2013-2014.
3. Using data from Year 2, 2013-2014, a logistic regression was conducted to find the best model fit.
4. Theory, literature, and both models from Year 1, 2012-2013, and Year 2, 2013-2014, were reviewed to determine which model would be used for Phase II of this study. Predictive probability groups from Phase I: Step 2 were used to compare, and to determine if what actually occurred during Year 2, 2013-2014, was accurately represented.

Phase I: Step 1

The first step used secondary data from Year 1, 2012-2013, freshman cohort and consisted of 1,916 students. An initial logistic regression was conducted to find the best model and used data obtained through the university's records system, SOAR. Hours of enrollment for the student's second fall semester, fall 2013, were used as the dependent variable. The researcher recoded the dependent variable to assure that students belonged to only one group: enrolled for the second fall semester, or did not enroll for the second fall semester. Therefore, the mutually exclusive assumption for logistic regression was met. When reviewing the dependent variable (Table 1), the majority of students, 71.9 percent, enrolled for the second fall semester.

Table 1

Phase I: Step 1, Enrollment for Fall 2013

	Frequency	Percent	Valid Percent	Cumulative Percent
Did not enroll	538	28.1	28.1	28.1
Enrolled	1378	71.9	71.9	100.0
Total	1916	100.0	100.0	

The study used several variables of interest to predict probability of group membership based on theory and prior literature. Interval variables included high school GPA and individual sub-scores from the ACT standardized test. Categorical variables included residency, ethnicity, gender, college of study, father and mother education levels, Federal Pell Grant eligibility, and the date of admissions application. Categorical variables were recoded using the highest frequency in order to ensure that students were only in one group. Data were screened for missing and outlying values, and missing variables were replaced with the value 9 or 99.

Descriptive statistics were run to gain a better understanding of the student population. Sixty-seven percent of the Year 1, 2012-2013, freshman cohort were female students, and over half of the cohort were eligible to receive the Federal Pell Grant. Nearly two-thirds of the cohort were Caucasian, and 68.6% held Mississippi state residency. Less than one-eighth of the cohort were admitted after April 2012.

Following the descriptive and frequency analysis, logistic regression was used to test these research hypotheses:

1. Was there a relationship between ethnicity and student persistence to the second year of college?

2. Was there a relationship between gender and student persistence to the second year of college?
3. Was there a relationship between parental income and student persistence to the second year of college?
4. Was there a relationship between high school grade point average and student persistence to the second year of college?
5. Was there a relationship between scores on standardized tests and student persistence to the second year of college?
6. Was there a relationship between the time in which a student has applied and been admitted to the institution and student persistence to the second year of college?

When looking at the observed and predicted tables, the base-level prediction, or naïve block, reported correct group membership 71.9% of the time. This prediction only accounted for the dependent variable because no variables of interest had been added to the model. Once the independent variables were added, the model reported correct group membership 72.7% of the time and correctly reported that 81 students would not enroll and 1,311 would enroll for fall 2013. The overall percentage increased from the naïve block. After reviewing the classification table to see which independent variables were predicting group membership, the researcher removed or retained variables to increase the prediction of group membership to find the best model. Variables were analyzed based on theory and research regarding student persistence (Astin, 1993; Chen & desJardins, 2008; Ishitani, 2006; Jacob, 2002; Pascarella & Terenzini, 1980; Rodgers,

2013; Tinto, 1975). The best model for Year 1, 2012-2013, predicted an overall percentage of 72.4 percent and included high school GPA, English and science sub-scores from the ACT, Pell Grant eligibility, and the date of admissions (Table 2).

Table 2

Phase I: Step 1, Best Model for Year 1, 2012-2013 Cohort

	B	S.E.	Wald	df	Sig.	Exp(B)
High School GPA	.405	.087	21.807	1	.001	1.499
English ACT	.046	.016	8.624	1	.003	1.047
Science ACT	-.050	.016	10.106	1	.001	.951
Eligible for Federal Pell Grant	-.682	.112	37.288	1	.000	.506
Date of Admission	.907	.151	36.091	1	.001	2.478
Constant	-.650	.325	3.999	1	.046	.522

Phase I: Step 2

Data from Year 1, 2012-2013, were used to predict the probability of students in the Year 2, 2013-2014, freshman cohort. Students were predicted to either enroll or not enroll for the second fall semester, fall 2014. The students predicted to not enroll for the second fall semester were found to be the at-risk population. The following formulas were used to calculate the predicted and probability scores:

$$\text{Predicted score} - g_{\text{pred}} = c + bX_1 + bX_2 + bX_3$$

$$\text{Predicted probability score} - 2.718^{g_{\text{pred}}} / (1 + 2.718^{g_{\text{pred}}})$$

The equation resulted in scores between 0.000 and 1.000. A criterion was set at 0.5 to establish or predict group membership. Students with scores above 0.5 were given the value of 1 which reflected those students likely to enroll in the second fall semester, fall

2014, at USM (n = 1,588). Students with scores below 0.5 were given the value of 0 which reflected those students less likely to enroll in the second fall semester (n = 158). Students below 0.5 were identified as the at-risk population.

Phase I: Step 3

The third step in this phase used data from Year 2, 2013-2014, freshman cohort and consisted of 1,746 students. A logistic regression was conducted to find the best model and used data obtained through SOAR. The dependent and independent variables were consistent with the initial logistic regression conducted during Phase I: Step 1. When reviewing the dependent variable (Table 3), the majority of students, 73.4 percent, did enroll for the second fall semester.

Table 3

Phase I: Step 3, Enrollment for Fall 2014

	Frequency	Percent	Valid Percent	Cumulative Percent
Did not Enroll	465	26.6	26.6	26.6
Enroll	1281	73.4	73.4	100.0
Total	1746	100.0	100.0	

Descriptive statistics were run to gain a better understanding of the student population. Similar to Year 1 demographics, 67% of the Year 2, 2013-2014 freshman cohort were female students, and over half the cohort were eligible to receive the Federal Pell Grant. The majority of the cohort were Caucasian, and 69.1% were Mississippi residents. Just over one-eighth of the cohort were admitted after April 2012.

Following the descriptive and frequency analyses, logistic regression was used to test research hypotheses for Phase I. When looking at the observed and predicted tables,

the base-level prediction reported correct group membership 73.4% of the time. Once the independent variables were added, the model reported correct group membership 74.7% of the time and correctly classified or predicted that 89 students would not enroll and 1215 would enroll. The overall percentage increased from the naïve block. After reviewing the classification table to see which independent variables were predicting group membership, the researcher removed or retained variables to increase the prediction of group membership to find the best model. The best model for Year 2, 2013-2014, predicted an overall percentage of 74.5 percent and included high school GPA, English, and reading sub-scores from the ACT, Pell Grant eligibility, father and mother education levels, and the date of admissions (Table 4).

Phase I: Step 4

Both models from Year 1, 2012-2013, and Year 2, 2013-2014, were compared to see which analysis adequately represented theory, prior literature, and data. In Microsoft Excel, predictive probability scores from Phase 1: Step 2 and the dependent variable scores for students that actually enrolled during fall 2014 were reviewed and compared. Seventy-four percent ($n = 1,295$) were correctly classified, and 26 percent ($n = 451$) were incorrectly classified. High school GPA, English sub-score on the ACT, Federal Pell Grant eligibility, and date of admissions were all significant in both models, when predicting enrollment for the second fall semester. The level of education for a student's father and mother were significant only in Year 2's model. The science sub-score on the ACT was significant in Year 1, 2012-2013, whereas the reading sub-score on the ACT was significant in Year 2, 2013-2014. Because prior literature and theory indicate that a parent's education level can influence persistence (Chen & DesJardins, 2008; Gibbons &

Woodside, 2014; Ishitani, 2003; Ishitani, 2006; Lowery-Hart & Pacheco, 2011), the model from Year 2, 2013-2014, was chosen as the most representative model. This model was used during Phase II of this study.

Table 4

Phase I: Step 3, Best Model for Year 2, 2013-2014 Cohort

	B	S.E.	Wald	df	Sig.	Exp(B)
High School GPA	.543	.102	28.490	1	.001	1.722
English ACT	.049	.017	7.888	1	.005	1.050
Reading ACT	-.046	.017	6.936	1	.008	.955
Eligible for Federal Pell Grant	-.410	.123	11.143	1	.001	.664
Father's Education level	-.207	.104	3.931	1	.047	.813
Mother's Education level	.226	.106	4.522	1	.033	1.253
Date of Admission	1.051	.150	49.328	1	.001	2.862
Constant	-1.459	.362	16.251	1	.001	.232

Phase II Analysis

Phase II used SPSS with the critical value (p) criteria less than .05 for statistical analyses. Phase II analyses consisted of five steps to further identify student characteristics that influence student persistence and enrollment during the second fall semester at USM:

1. An exploratory factor analysis (EFA) was conducted using data from the New Student Questionnaire (NSQ) to review the Year 2, 2013-2014, freshman cohort.

2. With results from the EFA and the determined model from Phase 1, another logistic regression was conducted using data from Year 2, 2013-2014, to determine the best model to predict the probability of enrollment during the second fall semester.
3. Predictive probability scores from Phase II: Step 2 were further examined to see if other groupings emerged from the data. These groupings did not have to meet the 0.5 predictive membership criterion.
4. With the new model outlined in Phase II: Step 2, a confirmatory factor analysis (CFA) was conducted using data from Year 3, 2014-2015, to verify that the EFA constructs were accurate.
5. Using the new model outlined in Phase II: Step 2, probability scores were predicted for group membership using data from Year 3, 2014-2015. An at-risk population was identified based on the analysis.

Phase II: Step 1

The first step during Phase II used data from the NSQ 2013. Only records from completed questionnaires from students aged 18 or older and completed questionnaires with parental consent from students under the age of 17 were analyzed. The sample consisted of 1,483 students from Year 2, 2013-2014, freshman cohort. If a student completed the questionnaire more than once, the initial submission date was kept. The same was true if a parent provided consent more than once. The item concerning a student's disability was recoded to show that a student either reported or did not report having a disability. Two items, father and mother's education levels, were removed from data, because more official data from the student's admissions application was used to

capture this information. An EFA was conducted to explore factor loadings and the effectiveness of the NSQ. Principal Axis Factoring (PAF) was used for extraction because the intent was to examine all constructs rather than reduce data. The direct oblimin, oblique rotation, were used to analyze the pattern matrix for all factor loadings. Based on literature and theory outlined in chapter two, the assumption was made that all factors were correlated to student persistence and success in college. Kaiser-Meyer-Olkin Measure (KMO) and Bartlett's Test were used to examine the relationship among the variables.

Results from the initial EFA analysis used the Kaiser criteria where the eigenvalue was greater than one. KMO was above .700 ($KMO = .801$), and Bartlett's Test was significant. Communalities were reviewed using the criteria of .200 to determine the amount of shared variance with other items. The initial model explained 38.820% of variability while retaining 19 factors. After reviewing the scree plot (Figure 5), the curve started to taper off or bend between six and seven factors. Based on Tinto's (1975) theoretical model, prior literature and the initial EFA analysis, data were explored using six, seven, and eight factor loadings to test the structure of the NSQ. Initial factors from the literature included adjustment to college, institutional commitment or college choice, academic engagement, motivation, procrastination, financial concern, and goal commitment (Bergerson, 2009; Gerdes & Mallinckrodt, 1994; Herndon, 2012; House, 2003; Knesting, 2008; Lowis & Castley, 2008; Robbins et al., 2004; Roderick, 2003; St. John, 2000; Wolters, 2004). Pattern matrixes were used to determine which model was the best solution and made theoretical sense. Items were examined to see if they did not load on any factors. Cross loadings were also explored using a criterion of .35 and

suppressing at .25, and communalities were reviewed using a criterion of below .4 while observing any items that fall between .2 and .4. This allowed the researcher to establish the best solution.

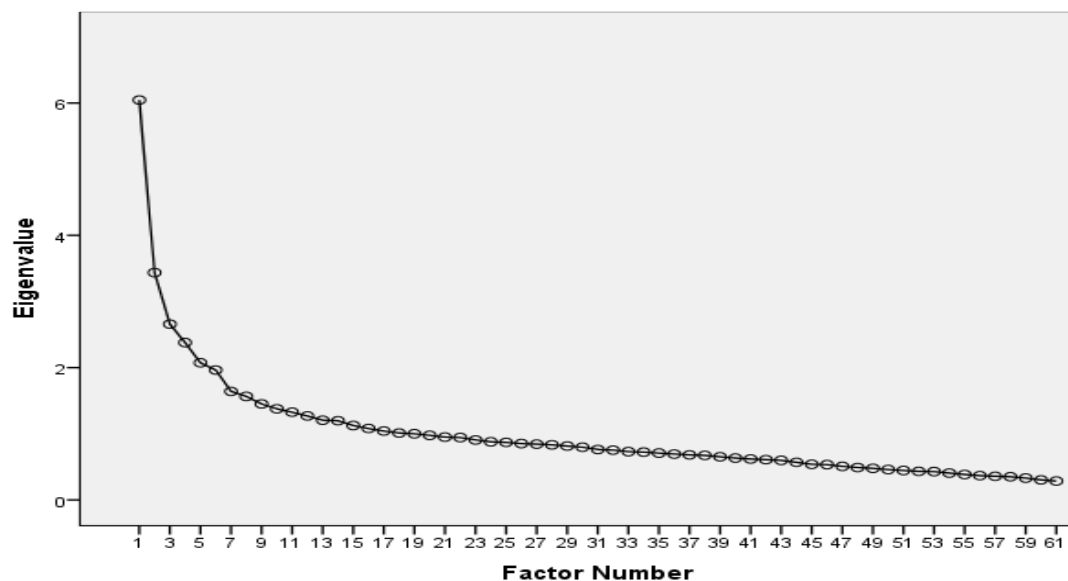


Figure 5. Phase II: Step 1, Scree Plot from Initial EFA.

The best solution and most simple structure illustrated 7 factors when exploring the 2013 NSQ: Adjustment to College, Institutional Commitment, Academic Engagement and Commitment to College, Lack of Engagement or Motivation in High School, Financial Concern, Unsure of Goals or Decisions for College, and Study Skills. KMO was above .700 ($KMO = .791$), and Bartlett's Test was significant. The model explained 33.205% of variability. Even though variability was low and certain items had low loadings or communalities, the model made theoretical sense, and items were not removed in order to keep a simple structure (Table 5). Cronbach's alphas were not conducted because items on each factor did not use the same scale. Factor scores were saved and used for Phase II, Step 2 analysis.

Table 5

Phase II: Step 1, Best Solution for 2013 New Student Questionnaire

	1	2	3	4	5	6	7
7a) Frequency you went to class without doing homework or assignments				.468			
7g) Frequency you studied with other students outside of class							.365
7i) Frequency you went late to class				.605			
7j) Frequency you skipped class				.557			
8) During my first year, I anticipate that I will work at a job					-.322		
9) While in high school, the amount of time I spent studying outside of class							.543
10) In college, the amount of time I expect to spend studying outside is							.414
12a) Difficulty adjusting to fitting into the campus environment	.628						
12b) Difficulty adjusting to balancing responsibilities	.556			.300			
12c) Difficulty adjusting to doing well academically	.541			.331			
12d) Difficulty adjusting to being in large classes	.572						
12e) Difficulty adjusting to living with a roommate	.458						
12f) Difficulty adjusting to combining a job with my studies	.490						
12g) Difficulty adjusting to making new friends	.611						
12h) Difficulty adjusting to leaving family	.528						
12i) Difficulty adjusting to getting involved in campus activities	.557						
12j) Difficulty adjusting to maintaining friendships form home	.480						
12k) Difficulty adjusting to having enough money	.440						
16a) Important in your decision to attend USM: academic reputation		-.331					

Table 5 (continued).

	1	2	3	4	5	6	7
16b) Important in your decision to attend USM: believe I will fit in at USM		-.502					
16c) Important in your decision to attend USM: athletic success		-.436					
16d) Important in your decision to attend USM: geographic location at USM		-.442					
16e) Important in your decision to attend USM: campus size		-.602					
16f) Important in your decision to attend USM: advice of parents, relatives, teachers, counselor or friends		-.462					
17a) Important in your decision to attend USM: cost of attending USM					.596		
17b) Important in your decision to attend USM: financial aid and/or scholarships received					.537		
17c) Important in your decision to attend USM: quality of USM campus tour experience		-.573					
17d) Important in your decision to attend USM: quality of USM recruitment materials (e.g., mail and brochures)		-.545					
23a) Agree or disagree, I rarely studied outside of class when in high school.							-.553
23b) Agree or disagree, reading through the material prior to a test is about all I have to do to be academically successful.							-.371
23c) Agree or disagree, I intend to participate in study groups in my courses.				.400			

Table 5 (continued).

	1	2	3	4	5	6	7
23e) Agree or disagree, I am responsible for what and how well I learn.			.715				
23f) Agree or disagree, I intend to graduate from college in 4 years or less.			.639				
23g) Agree or disagree, I expect to work hard at studying in college.			.814				
24b) Agree or disagree, I need to work to afford to go to school.					-.515		
24d) Agree or disagree, it will be difficult to leave my family and high school friends at home while attending USM.	.333						
24e) Agree or disagree, I plan to transfer to another college sometime before completing a degree at USM.						.386	
24f) Agree or disagree, I feel confused and undecided as to my future educational goals.						.909	
24g) Agree or disagree, of the things I could be doing at this point, going to college is the most satisfying.			.350				
28) How sure are you about your choice of academic major?						.551	

Phase II: Step 2

The second step for Phase II conducted a logistic regression to determine if the latent variables found in the EFA and the variables from Year 2, 2013-2014, model were significant predictors of a student's enrollment in the second fall semester at USM. Data from Year 2, 2013-2014, were used to conduct this analysis ($n = 1,483$). Hours of enrollment from the fall 2014 semester were used as the dependent variable and recoded, using the highest frequency: enrolled or did not enroll for the second fall semester. The mutually exclusive assumption was met. The interval and categorical variables used for this analysis were obtained from the best model during Phase I: Step 4, and the factor scores from Phase II: Step 1. Categorical variables were recoded using the highest frequency to ensure that students were only in one group. Data were screened for missing and outlying values, and missing values were replaced with the value 9 or 99. Descriptive statistics were run in order to gain a better understanding of the student population and used to test these research hypotheses for Phase II:

1. Was there a relationship between a student's difficulty in adjusting to the collegiate life and being identified as an at-risk student?
2. Was there a relationship between a student's level of academic engagement in high school and being identified as an at-risk student?
3. Was there a relationship between a student's commitment to the institution and being identified as an at-risk student?
4. Was there a relationship between a student's level of financial commitment and being identified as an at-risk student?

When looking at the observed and predicted tables, the base-level prediction reported correct group membership 75.8% of the time. Once the independent variables were added, the initial model reported correct group membership 75.9% of the time and correctly reported that 37 students would not enroll, and 1,088 would enroll for fall 2014. The overall percentage increased from the naïve block. After reviewing the classification table to see which independent variables were predicting group membership, the researcher removed or retained variables to increase the prediction of group membership to find the best model. The best model for Year 2, 2013-2014, predicted an overall percentage of 75.6% (Table 6) and included Adjustment to College, Institutional Commitment, Lack of Academic Engagement, Study Habits, high school GPA, English and reading sub-scores from the ACT, Pell Grant eligibility, the education level of a student's father and mother, and date of admissions (Table 7).

Table 6

Phase II: Step 2, Best Model for Year 2, 2013-2014 Cohort Classification Table

Observed	Predicted		
	DV Enrollment		Percentage Correct
	Not Enrolled	Enrolled	
Not Enrolled	36	323	10.0
Enrolled	39	1085	96.5
Overall Percentage			75.6

Table 7

Phase II: Step 2, Best Model for Year 2, 2013-2014 Cohort

	B	S.E.	Wald	df	Sig.	Exp(B)
Adjustment to College	.193	.072	7.249	1	.007	1.213
Institutional Commitment	.163	.077	4.517	1	.034	1.177
Lack of Academic Engagement in High School	-.260	.078	11.056	1	.001	.771
Study Habits	.105	.082	1.663	1	.197	1.111
High School GPA	.625	.121	26.698	1	.001	1.869
English ACT	.021	.020	1.182	1	.277	1.021
Reading ACT	-.022	.019	1.250	1	.264	.978
Eligible for Federal Pell Grant	-.363	.135	7.260	1	.007	.696
Father's Education	-.270	.114	5.619	1	.018	.764
Mother's Education	.257	.115	4.959	1	.026	1.293
Date of Admission	.759	.197	14.856	1	.001	2.137
Constant	-1.299	.430	9.119	1	.003	.273

Phase II: Step 3

The best model for Year 2, 2013-2014, data predicted an overall of 75.6 percent correct. Therefore, the predictive probability scores and memberships were compared to the observed enrollment to see if participants were grouped together, even if scores did not meet the .5 criterion used. This step was to help explore other criteria that illustrated populations at-risk of not enrolling for their second fall semester at USM. After saving the probability scores and group membership, data were compared in Microsoft Excel to review frequencies using numerous pivot tables. Three hundred and fifty-nine students were observed to not enroll for fall 2014. Forty-seven percent of students who did not

enroll had a probability score below .6999, and 76% of students had a probability score below .7999 (Figure 6).

Students Observed to Not Enroll for fall 2014 using Predictive Probability Scores (n = 359)	Number of Students within certain Probability Scores
Below .5	36
.5 - .5999	43
.6 - .6999	88
.7 - .7999	106
.8 - .8999	79
.9 - .9999	7

Figure 6. Phase II: Step 3, Students Not Enrolled for Fall 2014 Grouped by Probability Scores.

Reviewing data from students that were incorrectly classified as enrolling for fall 2014 (n = 323), the majority were first-generation college students and eligible to receive the Federal Pell Grant. The majority of these students also scored lower than 22 on the English portion of the ACT and received less than a 3.25 high school GPA (Figure 7). USM's average ACT for the 2013-2014 cohort was a 22.0 (Institutional Research, 2013a).

Incorrect Classification for Students Enrolling in Fall 2014 (n = 323)	Number of Students
Father did not receive a bachelor's degree	211
Mother did not receive a bachelor's degree	250
Eligible for Federal Pell Grant	194
Scored lower than 22 on English portion of ACT	173
Less than 3.25 high school GPA	202

Figure 7. Phase II: Step 3, Students Incorrectly Classified as Enrolled in Fall 2014.

Phase II: Step 4

A CFA was conducted using data from Year 3, 2014-2015, cohort to verify and confirm the constructs or factors established during the EFA in Phase II: Step 1. Similar

to the EFA data screening process, only records from completed questionnaires from students aged 18 or older and completed questionnaires with parental consent from students under the age of 17 were analyzed. The sample consisted of 1,159 students from Year 3, 2014-2015, freshman cohort. If a student completed the questionnaire more than once, the initial submission date was kept. The same was true if a parent provided consent more than once. The item concerning a student's disability was recoded to show a student, either disclosed or did not disclose having a disability. There were no missing values in the data.

Using AMOS (Analysis Properties in Output), version 21, a measurement model was created to analyze the relationship between exogenous and endogenous variables, and to see how well the model fits with prior theory and literature on student persistence (Figure 8). The exogenous variables, or latent variables, used in the model were adjustment to college, institutional commitment, student's study skills, lack of engagement in high school, lack of confidence in decisions or goals, financial concern, and academic engagement in college. Since the latent variables could not be measured directly, indicators or items from the NSQ were included to test the relationship. These indicator terms consisted of each item that loaded on the factor during the EFA in Phase II: Step 1. The variances for all latent variables, rather than the regression weights, were constrained to one since multiple scales were used in the NSQ.

A negative variance was found for "I feel confused and undecided as to my future educational goals" (indicator 24f). Therefore, parameter estimates were placed on indicator 24f, and "How sure are you about your choice in academic major?" (Indicator 28) to illustrate that both estimates were equal. This allowed the variance to be positive

and further calculations could be made. Model fit was determined by reviewing Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and the 90 percent confidence value. TLI and CFI used a criteria of .90 as an adequate fit, and RMSEA was considered a close or good fit, if the value was less than .05. The initial measurement model reported a 3,764.162 chi-square value, with 759 degrees of freedom. TLI was .692, CFI was .715, and RMSEA was .058, with a .057 to .060 confidence interval. After reviewing estimates and modification indices, directional paths between error terms were included to produce the model of best fit and to ensure that the data represented theory and prior literature. If two indicators were determined to have a justified relationship, chi-square difference tests were calculated to determine significance.

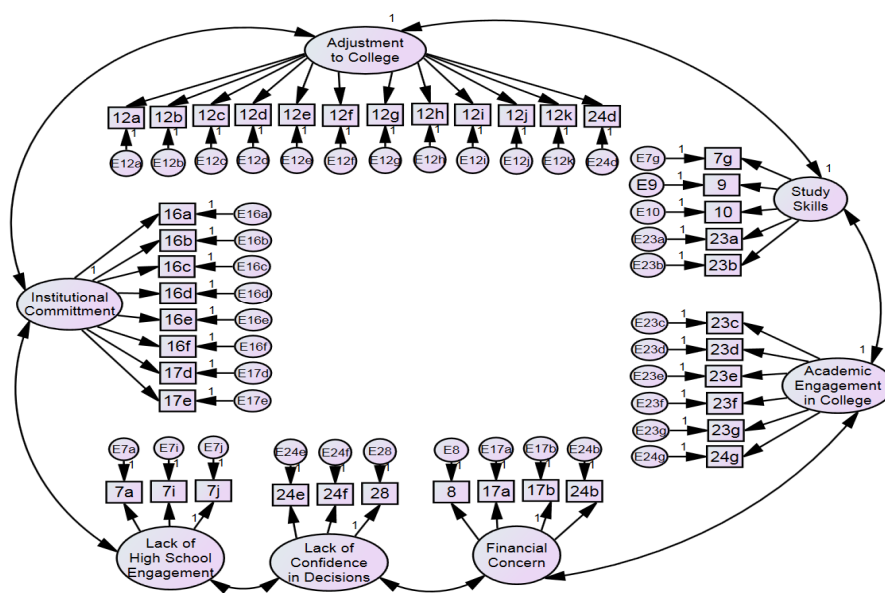


Figure 8. Phase II: Step 4, Measurement Model using the New Student Questionnaire 2014. Note: Latent variables were correlated to all other latent variables even though Figure 8 shows a single correlation. See Table 5 for Indicator Names.

After reviewing the initial measurement model (Figure 8), several error terms were correlated based on theory and research within the latent variable, adjustment to college. For example, Lowis and Castley (2008) discussed how faculty members need to spend more time explaining how to do well in an academic setting because students have unrealistic expectations before they begin their college experience. Therefore, adjusting to “doing well academically” (indicator 12c) and “adjusting to anticipating balancing responsibilities” (indicator 12b) were correlated in the measurement model. Similarly, “doing well academically” and “being in large classes” (indicator 12d) were determined to have a relationship because larger classes have been shown to negatively influence academic performance (Paola, Ponzo, & Scoppa, 2013). Harrison (2006) found that students could integrate socially if they adjusted their expectations of college and budgeted wisely. Harrison also discussed how low-income students were more likely to state having financial issues and select a college that was close to home in order to continue having support from their families. Therefore, “having enough money” (indicator 12k) and “I need to work to afford to go to school” (indicator 24b) were correlated. Similarly, if students have to work to afford going to school, then this could limit their time getting involved and making new friends. Tinto (1975) indicated that social integration was a key component of his theoretical model, and Pascarella and Terenzini (2005) agreed that interactions with one’s peers were related to persistence. Thus, “having enough money” (indicator 12k) and “maintaining friendships from home” were correlated, as well as “getting involved in campus activities” (indicator 12i) and “making new friends” (indicator 12g).

In regard to institutional commitment, Herndon (2012) suggested that colleges and universities should provide sufficient information during their college selection process. Information regarding academic majors, careers, and how to afford tuition and fees is needed when helping students make the right college choice. Because students receive a lot of information regarding a university during a campus tour and through recruitment material, these error terms, “quality of campus tour experience” (indicator 17d) and “quality of recruitment materials like mail and brochures” (indicator 12e) were correlated. Literature also shows that larger classrooms can negatively impact a student’s academic performance (Paola, Ponzo, & Scoppa, 2013). With the majority of students at USM being from Mississippi (Institutional Research, 2013a), “geographic location of USM” (indicator 16d), and “campus size (indicator 16e) were determined to have a relationship. The same can be seen for “campus size” and the belief “I will fit in at Southern Miss” (indicator 16b). Students coming from smaller high schools in Mississippi may not find their place at USM because of its size.

After reviewing the latent variable for student’s study skills, a relationship was drawn between “amount of time I spent studying outside of class” in high school (indicator 9) and the “amount of time I expect to spend studying outside of class” in college (indicator 10). Students who did not have to study in high school in order to be successful could have unrealistic expectations regarding the time needed to study in college, for them to do well (Lowis & Castley, 2008). The same was true for “amount of time I spent studying outside of class” in high school and “studied with other students outside of class” (indicator 7g) in high school. For the latent variable, financial concern, another correlation between “I anticipate that I will work at a job” during my first year

(indicator 8) and “I need to work to afford to go to school” (indicator 24b) was determined (Harrison, 2006). Finally, the researcher found that “lack of confidence in decisions or goals” had a relationship between “I plan to transfer to another college sometime before completing a degree at Southern Miss” (indicator 24e) and “how sure are you about your choice of academic major” (indicator 28). Herndon (2012) suggested that it is helpful to provide sufficient information regarding academic majors, careers, and how to pay for college. This information is important when students select a college to attend.

After reviewing the final measurement model, the degrees of freedom went down ($df = 743$), and the chi-square value significantly decreased (2025.629). The model reported a TLI (.866) and CFI (.878), and both were approaching .90 (Table 8). However, the RMSEA was below .05 (.039) and reported a tight confidence interval from .037 to .041 (Table 9). This model was most parsimonious and had the simplest explanation of the data. Therefore, the CFA in Phase II: Step 4 confirmed the factors established in the EFA during Phase II: Step 1.

Table 8

Phase II: Step 4, Baseline Comparisons for 2014-2015 New Student Questionnaire

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.821	.803	.879	.866	.878
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 9

Phase II: Step 4, RMSEA for 2014-2015 New Student Questionnaire

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.039	.037	.041	1.000
Independence model	.105	.104	.107	.000

Phase II: Step 5

The final step during Phase II was to predict the probability for students who would not enroll at USM for the fall 2015 semester, using the prediction model established during Phase II: Step 2, which was confirmed during Phase II: Step 4. Using data from Year 3, 2014-2015, categorical variables were recoded using the highest frequency in order to ensure that students were only in one group. Data were screened for missing and outlying values, and missing variables were replaced with the value of 9. Criteria used for data screening was consistent with other logistic regression analyses conducted in this study. An EFA was conducted, using the NSQ from Year 3, 2014-2015, in order to save factor scores since the instrument did not use the same scales across all factors. Items were only used if they loaded on a factor during Phase II: Step 1 and confirmed during the CFA during Phase II: Step 4. Using Table 7 as a guide, data were used from Year 3, 2014-2015, to identify the at-risk population at USM. The following formulas were used to calculate the predicted and probability scores, using a criteria of 0.5 to predict group membership:

$$\text{Predicted score} - g_{\text{pred}} = c + bX_1 + bX_2 + bX_3$$

$$\text{Predicted probability score} - 2.718^{g_{\text{pred}}} / (1 + 2.718^{g_{\text{pred}}})$$

Students who fell below 0.5 were predicted to not enroll during fall 2015 and were identified as the most at-risk population at USM to not persist to their second fall semester.

After reviewing the group of students who completed the NSQ (n=1,159), 47 students fell below the 0.5 criteria. However, 112 students' probability scores fell below 0.6, and it was used to further identify the at-risk population due to the results of Phase II: Step 3. For the 112 students who fell below 0.6, their average cumulative ACT score was a 20, with a high school GPA of 2.676. Sixty-two percent were minority students and 78% were eligible to receive the Federal Pell Grant. Regarding their parents' education level, 78 percent of students' fathers did not have a Bachelor's Degree, and 75% of students' mothers did not have a Bachelor's Degree.

Data were also reviewed to see if there were any commonalities for students who did not complete the NSQ (n=441). These students had an average cumulative ACT score of 20, with a high school GPA of 3.134. Fifty-three percent of students who did not complete the NSQ were first-generation college students. Figure 9 compares students with completed NSQ and those who never completed the NSQ.

Year 3 2014-2015 COHORT (n=1,599)	Sample Size	Average ACT	Average GPA	Gender	Ethnicity	Date of Admissions
Completed NSQ	1,159	22.40	3.334	71% female	41% minority	.08% after April 2014
Did Not Complete NSQ	440	20.48	3.134	62% female	50% minority	22% after April 2014

Figure 9. Phase II: Step 5, Year 3 Comparison of Completed NSQ and Incomplete NSQ.

Based on the findings from Phase I and II, the final phase of this study was conducted in order to further explore the student body population at USM. Interviews

were conducted with administrators, faculty, and staff in order to obtain a better understanding of how this type of research could influence policy, practice, and the future goals of an institution of higher learning.

Phase III Analysis

Semi-structure interviews explored participants' experiences and knowledge with the USM student body population. Face-to-face interviews were conducted with nine administrators, faculty, and staff members at The University of Southern Mississippi, who were knowledgeable and had insight with retention and enrollment issues at the institution. Possible participants were emailed with a brief introduction to the study, and they were selected due to their insight regarding student persistence and enrollment initiatives. Each interview was conducted on campus at a time and location chosen by each participant. Consent was granted by each participant to ensure that they understood the purpose and goals of the qualitative phase for this study. Because this study focused primarily on one public-institution in the state of Mississippi, basic characteristics were provided (Figure 10), but names, titles, and job descriptions were not shared to protect the participants' confidentiality and anonymity.

Pseudonym	Gender	Years of Higher Education Experience
Beth	Female	15-20 years
Candace	Female	20 or more years
Claire	Female	10-15 years
Gipson	Male	10-15 years
Price	Male	10-15 years
Elizabeth	Female	10-15 years
Emily	Female	20 or more years
Patrick	Male	10-15 years
Rick	Male	20 or more years

Figure 10. Phase III: Demographic Profile of Participants.

All participants earned graduate degrees, and six of the administrators, faculty and staff had earned doctoral degrees. Expertise of the individuals consisted of financial assistance programs, first-generation and low-income students, advisement and curriculum issues for under-prepared students and first-year students, recruitment and retention initiatives for university and campus departments, athletic programming, and administering university, state, and federal policies and practices. All participants discussed their awareness of the budgetary challenges and enrollment deficits within the university.

Digital audio files were transcribed, coded, and analyzed to find patterns and themes in the data. Merriam (2009) described qualitative analysis as using a primarily inductive and comparative approach, with the goal of “consolidating, reducing, and interpreting what people have said” in an interview (pp. 175-176). Analysis began by identifying segments in the data that provided meaning regarding the research questions for Phase III. These segments were compared to see if a pattern could be established across the data. Data were organized into categories or themes which became the findings of the study and were used to answer the following research questions:

1. What population of students did administrators believe were most at-risk of not persisting to their second fall semester at USM?
2. What were administrators doing currently to identify and assist at-risk students to persist at The University of Southern Mississippi?
3. How would having knowledge of a specific set of characteristics that identify at-risk students at their institution affect decisions regarding policy, practices and intervention programs?

Open coding was used to begin the analysis, by reviewing the first interview and making note of data that had a possible explanation of the research (Merriam, 2000). These data were relevant to student persistence at USM and policies and practices which could serve an at-risk population. Initial categories emerged from the data analysis including financial concerns, family background, student commitment, adjustment and academic troubles. The location of USM was mentioned as an important variable when considering the student population. South Mississippi was described as a culture of high poverty, poor public school systems, and families with lower education levels. Finally, types of support programs were discussed, and a pattern of early intervention programs within the first year were described as important to policy and practice. These programs should provide personal support services targeting students' specific needs. Research on at-risk students would provide administrators, faculty, and staff with a proactive approach, when developing policies and establishing future goals for the institution and individual departments. Further analysis of qualitative data was conducted in order to find patterns in the study.

Attributes Indicating First-Time, Full-Time Student Persistence:

Overarching Concept from Qualitative Findings

After categorizing data into thematical schemes, four patterns emerged from the data: adjustment characteristics, including the maturity level of students and student motivational traits, academic and curricular issues, family influences, and financial matters. These four categories were systematically named in order to further explore a students' ability to continue enrollment at USM and provided insight into different attributes indicating student persistence (Figure 10). Each category consisted of

characteristics, traits, and components that relate to a student's adjustment potential. During the first-year of college, research has shown how adjusting to new environments and balancing academics and non-academic experiences can relate to persistence and retention (Gerdes & Mallinckrodt, 1994; Harrison, 2006; Lowis & Castley, 2008). Data from Phase II showed that the potential, or lack of potential to adjust to a given experience, significantly impacted a student's likelihood to persist at USM (Table 7). During Phase III, administrators, faculty, and staff expressed the importance of this study, and how identifying at-risk characteristics can impact university policy, intervention programs, and goals. The following themes were guided by the first qualitative research question of this study: what population of students did administrators believe were most at-risk of not persisting to their second fall semester at USM?

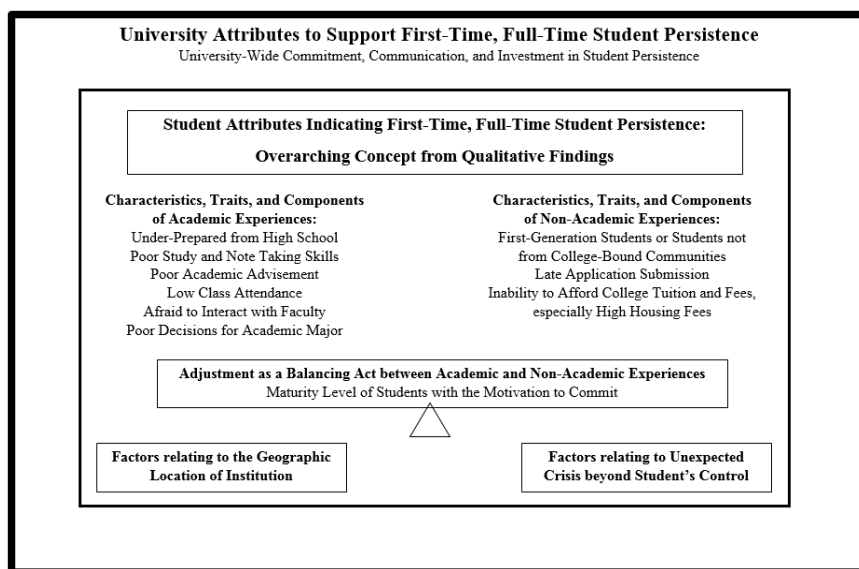


Figure 11. Phase III: Attributes Indicating First-Time, Full-Time Student Persistence: Overarching Concept from Qualitative Findings

Adjustment as a Balancing Act between Academic and Non-Academic Experiences

All participants discussed the multiple facet approach to how students adjust to their first year of college. This “freshman myth” has referred to a student’s ability to match their expectations and pre-conceived notions to the actual college experience (Gerdes & Mallinckrodt, 1994; Harrison, 2006; Lowis & Castley, 2008). Participants discussed several topics regarding their experiences with the USM student body population, and which characteristics influenced a student’s likelihood to persist to their second fall semester. These topics included, but were not limited to, the ability to understand “university lingo” and academic policies, and maturity level to handle being a college student, and the motivation students have to make connections on campus and remain committed to their goals. For example, Gipson discussed how students had very little understanding of what to expect during their first day of class, or how to handle criticism after they received their first assignments. Beth mentioned that students need the basic definitions of credit-hour, tenure, dean of an academic college, general education curriculum (GEC). She said, these terms were “unfamiliar to most 18-year-olds.” Emily said that the majority of first-time, full-time freshmen were “barely 18-years-old. It’s their first time away from home, and they have problems adjusting.” She also mentioned the importance for administrators, faculty, and staff to help these students adapt to the college environment and emphasized that “the first six to eight weeks are crucial” for students to start on the right path. Price agreed that early intervention was needed to help students be successful. He explained that students living on campus for the first time may begin to feel like they are just a number and to feel as if they could slip through the cracks without being noticed.

Gipson discussed Schlossberg's student development theory regarding a student's transition to college. This theory provided strategies for higher education administrators, faculty and staff when helping students cope with change in routines, assumptions, and roles (cited in Evans, Forney, & Guido-DiBrito, 1998). Candace discussed how students do not have the life skills to cope with the new college environment. Schlossberg's theory also stressed the role of perceptions as defined by the individual's experience of that change or adjustment period. If a student is affected, both positively and negatively, by the transition from high school to college, this may lead to stress (Evans et al., 1998). Rick provided the notion of task-relevant maturity as the ability to develop and be successful as a college student. This term was applied to a student's potential to adjust through the transition from high school to college. When traditional-aged freshman come to campus for the first time, they "may not have the ability to understand and manage the business of being a college student." He further suggested that their maturity level may not equip them for the tasks associated with being a successful college student. Rick said he has worked with students who are task-relevant immature, and most of the time, they come from families or cultural backgrounds with little experience of college.

He contributed college choice as a factor of task-relevant maturity. "If they didn't think consciously about college as a choice, and they just showed up with what I call the 13th grade mentality, their task-relevant maturity may be low." Rick said that students with a more immature approach to college could allow alcohol, drug abuse, and other social aspects of the collegiate career to tilt the balance of a student's adjustment potential and lead them to a path that is not successful. This "13th grade" mentality, to which Rick alluded, may come from students obtaining an insufficient amount of

information during their college selection process. Research has shown that students need sufficient information regarding academic majors, careers, and how to afford college (Herndon, 2012), when selecting the right college. For students with lower task-relevant maturity levels, they may have done little research when selecting the college that was right for their academic future. Emily expressed this in her interview. She said, “They have been told all of their life that to be successful and to go far in the world, you have to go to college. Well, that is as far as they know. Go to college, but they don’t know what to do once they get here.”

The “freshman myth” has been studied to show that students’ expectations do not always match the actual experiences once they begin. Lowis and Castley (2008) discussed how spending time learning how to do well in college and managing those false expectations is important in student persistence, whether it means time spent studying outside of the classroom, or the ability to adjust to living in the residence halls. Beth articulated the importance of learning how to manage time and scheduling priorities in college:

Student must pace themselves so they can balance all that they have on their plate. They don’t understand that they cannot work 40-hours a week, go to school full-time, and go home on the weekends to take care of their sick aunt, and have a child, and...fill in the blank.

The majority of the participants agreed with this concept of managing time as an important indicator or characteristic of an at-risk student at USM. Participants mentioned that outside stressors, unknown factors, and other hurdles make it hard for students to juggle the priorities of being a college student. They have a hard time adjusting or

managing their time. Claire shared her experiences where students are in “total panic mode over something that is really not that big of a deal. Just learning to fight your way over little hurdles, for [first-year students], it’s like climbing mountains.” Elizabeth reiterated this idea of juggling time in college, by explaining that administrators, faculty and staff should help minimize “outside stressors so that students can focus more on studying for their coursework that is beneficial to student success.”

These outside stressors may cause disappointment, frustration, and a lack of urgency to stay committed to college. Several participants were also discouraged when they had tried to help a student, and that student did not show up, was late, or no connection was established. These frustrations brought forth the theme that a student’s lack of motivational traits could affect a student’s potential to adjust in college. This theme developed as administrators, faculty and staff were trying to search for the students that want to be in college. “How do you find the ones that want it?” (Rick). Participants agreed that you cannot help all students, especially if they were not committed to their education, or motivated to make connections and stay engaged with the campus. Without the willingness to participate, or the confidence to accomplish their goals, participants stated that students may not have the willingness or commitment to persist at USM. Like the “freshman myth” describes, Emily talked about how incoming and first-year students have set expectations of what they want to accomplish. If the actual experiences are not fitting into their plan, they become discouraged. Emily was frustrated because programs and services were offered, but she could not figure out how to get the students back into her office to use the resources. A similar story was told about students not attending a

required academic contract meeting. Elizabeth lamented that “the majority of those meetings and advisement opportunities were disappointing because no one showed up”.

Gipson discussed how Schlosberg’s (1989) theory of mattering versus marginality was used a great deal in his day-to-day philosophy regarding how to help students persist at USM. His philosophy focused on creating an environment where students have a sense of belonging and make a connection to something or someone. He firmly believed that if students felt like someone cared about them or that they belonged to something, then the students would find a way to stay committed to being successful in college. If “they feel like people know who they are and can find some purpose in being here, they are more likely to persist or be retained and graduate” (Gipson). Beth agreed that a sense of connection and empowerment was needed in order to overcome some of the deficits in skill sets. “That’s my focus. If a student understands that they can be in charge of their own life, they can avail themselves to resources and make changes in their lives to get them to graduation.”

Geographic Location

Candace expounded upon this sense of belonging by tying it to students’ home communities. A good number of students at USM were from small communities and seemed to have a strong connection to their families. “It’s harder to establish new relationships, and it is hard to establish a sense of belonging somewhere else.”

Geographic location and smaller home communities emerged throughout all interviews regarding adjustment and persistence. The majority of the student population at USM were from small, rural hometowns in south Mississippi. Data regarding geographic

location, and the region that USM primarily serves, further illustrated the type of student examined in this study and was consistently discussed when providing at-risk characteristics. Prior studies have found that location of an institution is important when students decide which college to attend (Davis et al., 2013; Simões & Soares, 2010), and the participants agreed that the geographic location of USM was also worth mentioning when discussing student persistence.

Gipson shared that Mississippi is agricultural in nature, students come from families with a lower socio-economic status, and the general culture of the state did not promote the benefits or opportunities of a college education. Elizabeth mentioned that Mississippi high school students may not be ready for a large college environment because they had more personal support in their smaller, rural high schools. She expressed that the university mission was to serve Mississippi students who are very tied to their home life. Emily and Rick both discussed how a large portion of USM students are first-generation and low-income. These students come from impoverished communities or high schools that inadequately prepare students for college due to lack of resources on a secondary level. Results from Phase II also supported the idea that family education level and eligibility for the Federal Pell Grant were significant indicators of student persistence at USM (Table 7). However, Beth, Claire and Rick pointed out that USM was not unique in serving a large amount of first-generation and low-income students. Beth believed that USM may be comparable to other universities that were primarily in rural areas with high poverty rates. From her experiences, Claire agreed that, in general, students from Mississippi were comparable to students in Alabama and Louisiana. However, she mentioned that USM was “dealing with different students and

different expectations.” Rick added that “there is a great movement towards college access over the last 40 years” and agreed that USM’s student population was slightly different from prestigious, private institutions or from comprehensive universities across the southeast. He said that students were applying for and enrolling in college who may not have had access to higher education in the past. Elizabeth mentioned that USM provided many opportunities for students to access higher education and stressed the importance of providing quality resources for them to be successful. She said, “If they are going to be a part of this campus community, we need to support them.”

One final characteristic that emerged when discussing the geographic location of USM was the notion of students attending a community or junior college before transferring to a four-year institution. As mentioned earlier, Gipson expressed how students at USM were typically not from college-going cultures. This was illustrated when he explained that many students from Mississippi’s small, rural communities do not attend four-year colleges after high school. From his experiences, students felt that a community or junior college was more affordable, seemed to have more personal support, and would be closer to their hometown. Gipson said that other universities, where students are not primarily from Mississippi, may see community and junior colleges as second-tier institutions. He said that attending a two-year college “is celebrated [in Mississippi] just as much if you were going to a university.” He also indicated that there was no stigma for students to begin at the four-year level and then step back to a two-year institution if they did not adjust to the rigors of the academic community. Emily agreed to the fact that “Mississippi is different from other places in the way the culture and the education system prepares students for post-secondary education.” Because a percentage

of students transfer to USM from community or junior colleges in the area, the student body population has a large number of transfer students. Beth and Claire both explained that transfer students, who were beyond the scope of this study, were also struggling to be successful at USM. Beth said, “They have the same problems as first-year students, and they have no introductory classes to take. They jump in the deep end.”

Academic Experiences during the First Year of College

During the interviews, participants expounded upon academic and curricular issues that may hinder a student’s potential to adjust to college and persist to the second fall semester at USM. Adjusting to this new academic environment was shown to provide challenges for students, and all nine of the participants expressed their concern regarding students inside the classroom. Data concerning academic and curricular issues were seen in curriculum development, advisement practice, study skills, academic major and career exploration, and class attendance and participation.

From their experiences in higher education and knowledge from supporting literature, participants were not surprised that high school GPA and standardized test scores were predictors in the at-risk model from Phase II (Table 7). The majority of the participants thought that students who were attending USM were under-prepared for the academic rigor needed to be successful, and attributed it to poor high school standards. Claire shared a story about a student during his first semester at USM. This student was frustrated at midterms and could not understand why his grades were low. Claire mentioned that he was comparing himself to the other students from his high school, instead of comparing himself to the students now in college. The student had an expectation or definition of success, and he was struggling to understand why his skills

were lacking at the collegiate level. He was successful at his high school, yet he was having a hard time finding his place in the academic world. To combat the issues of students attending college with poor academic skills, Elizabeth mentioned that high school GPA and test scores could be used to “assign students to remedial coursework which can better prepare the student and ultimately help them be retained.”

Beth also noticed how students were not receiving the proper academic skills in high school that were needed to do well in the college classroom. She said that students lacked the necessary writing and math skills to complete university-level work which causes stumbling blocks during the general education curriculum (GEC) courses. Beth also mentioned that students were lacking in study skills. “They were trained to memorize and regurgitate or copy from the internet. Then they come here and there is no transition or bridge to show them a strategy for how to take notes.” She believed the quality of education that Mississippi students received was a combination of the rural nature of the communities, a majority of students who were first-generation, and the students’ families had higher poverty rates compared to the national averages. However, Beth questioned that if the majority of the student population at USM was first-generation and low-income, then why are they labeled at-risk? “Until we recognize and talk about what’s normal, then the students feel like they are different.” When students feel different and take on a negative stigma, they stop feeling “empowered to handle their business. They give up.”

Other warning signs or characteristics of at-risk behaviors emerged from the data when discussing academic and curricular issues. Several participants mentioned class attendance, feeling confident when meeting professors, and advisement concerns. Emily

expressed that interaction with faculty and the enjoyment of class were important influences in student persistence. Rick was concerned that students received poor advisement. He expressed how he wanted academic advisors to help students select the right courses and build on the skills needed in order to be successful. He then told a story about a student struggling to stay at USM. After much career counseling and discussion, the student decided to change her major. He felt like this decision to select the appropriate major based on her skillset was the most important decision when helping this student to be successful. Similarly, Patrick tried to offer academic support to a student regarding which major to declare because the student had been poorly advised at USM. The student stayed in the wrong major, and he was not able to progress towards his degree academically. Ultimately, the student transferred to another institution where he began doing well due to a new major that was the right fit for his academic background.

Non-Academic Experiences during the First Year of College

Administrators, faculty and staff explored non-academic attributes that contributed to a student's persistence at USM. Three themes emerged from the data to represent the non-academic and personal experiences in which a student has during their first year of college. Financial matters, family influences, and student motivational traits were found to influence a student's potential to adjust to the transition of college. As mentioned in the literature, family income and family education levels are highly related to one another in regards to student persistence (Chen & DesJardins, 2008; Harrison, 2006; & Ishitani, 2006; Johnson, 1996; Rodgers, 2013). These two attributes were also

significant when predicting the probability of student enrollment at USM during Phase I and II of this study.

Family Influences

Participants during Phase III also acknowledged that the majority of students at USM were first-generation students from a lower socio-economic status, and these characteristics played a part in a student's ability to adjust in college. However, participants disagreed on the definition of first-generation college student. Of the participants that provided their definition, four said neither parent nor guardian obtained a Bachelor's Degree, and three said neither parent nor guardian attended any years of college. Price said, "Going to college is one thing. Finishing it up is a completely different thing." Whereas Rick stated, "I think that a parent [who] went one or two years and stopped is a little more up-the-range from someone [who] has never been to college." On the other hand Gipson explained that first-generation can be affected by "the culture around them, the community or neighborhood they are from." Elizabeth also discussed the importance that family support and community had on the USM student population. "The students that we typically work with are very tied to home. They are used to smaller environments." Candace discussed how students are often responsible for more than just their academics. She felt that parents and family members placed a large amount of responsibility on the student, and that responsibility to help the family pulled focus from their classwork.

The majority of the participants agreed that lack of parental involvement or knowledge about college in general can burden a student during their first year. For

example, Patrick described how he met a student during the first week of school. The student's "parents just dropped him off, had no place to live, didn't know where to go", so he adopted him. Beth agreed that "parents may not understand how it [college] works, or the relationship between a college degree and a career. They may think they [students] are here to get a job, but they are here to get more than that". Another example Gipson provided, and which often occurs during finals, is that the student's family "may want the student to come and babysit in the middle of a highly intense time period of the semester. The student feels torn, and the family is not supportive of them doing the things they have to do to be successful in college."

Financial Matters

In regards to financial matters, students commit early on to an institution based on the financial aid package they receive and its affordability (Davis et al., 2013). However, Ishitani (2006) found that students have an unrealistic expectation of how much money they will need to afford college tuition and fees. Elizabeth stated that students who enter USM expressing a financial hardship will most likely have the same type of financial challenge during their first-year in college. The same was true for the other participants during Phase III. Gipson expressed that USM should provide opportunities for scholarships which are based on family income. He said, "We have a large number of students on Pell Grant. They can flourish if they have the right kind of support." Patrick also discussed the importance of need-based scholarships or financial assistance. He said, "If they are at-risk academically, they don't need the extra stress of the financial burden."

The majority of the participants felt that USM costs, especially the housing costs, were too expensive for their student population. Patrick said that students' families "don't have discretionary income to help" with the cost to live on campus as a freshman, and that "living on campus is getting expensive." Beth mentioned that a lot of her students needed to work while being in school, and it was hard for them to prioritize their time. In her experience, she found that students did not have the resources to pay for textbooks and began collecting major debt. She said, "If they don't persist, they are in real trouble," referring to students who leave a university without a college degree and whom already have accumulated thousands of dollars in debt. Price had similar experiences as Beth in that the majority of his students needed financial assistance or had a lack of financial planning skills to stay in college. His students expressed that no one was paying them to go to school, but he tried to let them see that someone or something was paying their tuition. Students have four to six years to see if the investment pays off. Elizabeth agreed that freshmen students need "to be aware that in four years they will need to be admitted into a graduate program or will be applying for a job. They should realize that their college GPA is vitally important."

University Attributes to Support First-Time, Full-Time Student Persistence

Administrators, faculty and staff at USM discussed how the potential for students to adjust to their first-year in college relates to their ability to balance the stressors of academic and non-academic experiences. They mentioned that the maturity level of students and the ability to stay motivated in college could affect the likelihood to manage the day-to-day business of being a college student. From their experiences, the participants provided insight into current strategies used to identify and assist students on

campus, as well as future areas that could be affected based upon this research.

University-wide commitment, communication and investment consistently emerged from the interviews as the final theme for this qualitative analysis. This theme was guided by the following research questions: 1) What were administrators doing currently to identify and assist at-risk students to persist at The University of Southern Mississippi? 2) How would having knowledge of a specific set of characteristics that identify at-risk students at their institution affect decisions regarding policy, practices and intervention programs?

Throughout the interviews, each participant provided ways in which their division, college and department were assisting students on campus. Some of these resources were tutoring resources; study skill development; counseling from both faculty, staff and peers; living-learning environments; academic courses designed to better prepare students for college; and personal outreach to students in need. A variety of topics were included in the counseling umbrella including academic advisement, career counseling, financial planning, and development of personal skills. Some areas were considering new course development and programming to target first-year students with poor learning skills. Other departments were considering how to improve advisement processes and to focus on identifying students in need of remedial courses. A few participants mentioned that the university had set an earlier admissions deadline which could affect the model outlined in Phase II. A common frustration amongst the participants was that the retention efforts seemed to be piecemeal, and the university community lacked the communication skills or capabilities to produce an effective and efficient university-wide campaign. Collaboration between departments was also

mentioned as a need in order to help reduce duplicating efforts and utilizing resources where they would be most useful.

As each interview concluded, participants were asked about the importance of knowing exactly which group of students on campus were the most at-risk of not returning for the second fall semester at USM. All of the participants expressed how this type of research was needed in order to identify or target the students who needed the most help. There was a sense of urgency when discussing this information. Beth said, “If you don’t know what they need, you can’t help them. We can’t just guess, it’s a waste of our time.” Claire agreed saying that “you want to help all students, but some will need more than others, more long-term help.” Participants also pointed out that identifying these students early and providing them with extra resources could be the tipping point for students to stay enrolled. They mentioned that the results of this study could help the institution tailor services and begin taking new approaches to ensure that the services are meeting the personal needs of the students. Elizabeth said that “as an institution, as an individual, it is our duty to help these students complete their education.” Candace agreed by saying, “We need to meet our students where they are and not where we think they ought to be.”

By employing a customized approach, this research could help administrators, faculty and staff to increase first-time-full-time persistence at USM. The university can take a more proactive approach and plan ahead. Gipson stated, “If we know these are the needs of our students, shame on us if we don’t try and do something about it.” Some participants provided barriers to this research. For this research to be effective, administrators should provide adequate budgetary resources when staffing the

intervention programs and additional resources outlined in this research. As Emily mentioned, “You [need] to have more than two people to do it.” Participants also discussed the barrier of university focus and campus-wide goals. They expressed that in order to receive results from this research, the institution would need to have buy-in and commitment to helping meet the student’s needs. Gipson said, “If our administration can embrace it and allow it to be who we are, it could be really good.” Other participants shared the same sentiment articulating that top-leadership must also be educated on the student body population at the university and future planning should be centered around educating the administrators, faculty and staff on how to proceed with improvements. There should be one common message or goal when training and hiring faculty and staff, and educating academic advisors. Faculty and staff need more training on mentoring students and empathizing with their needs. Beth said, “You cannot just assume as a faculty or administrator that everyone who walks through this campus is like you.” Candace stated that it was unethical to allow students to enroll in a university and not help them earn a degree.

In conclusion, Phase I and II of this study identified characteristics that influenced a student’s probability of enrolling in the second fall semester at USM. Characteristics included high school GPA, English and reading scores on the ACT, eligibility for Federal Pell Grant, the parents’ education level, date of admissions, student ability to adjust to college, institutional commitment, lack of high school engagement, and study skills. After interviewing administrators, faculty and staff at USM, the student body population was further explored for additional factors which influence student persistence. During Phase III, participants discussed how students have a hard time adjusting to college

because students are required to balance academic and non-academic experiences. Students may begin college with a lack of maturity that is needed in order to remain motivated and complete certain tasks or goals. Academic characteristics included students being under-prepared from high school, poor study and note taking skills, experiencing poor advisement at USM, or not attend class and feeling afraid to interact with faculty members. Non-academic characteristics included first-generation students from communities where the benefits of college were not discussed and the inability to pay for college tuition and fees. Participants discussed the importance of this research and expressed that unexpected crises may occur in a student's life that would be hard for universities to anticipate. However, participants agreed that this research could help administrators, faculty and staff to develop strategic and effective policies and practices that are targeted to a specific at-risk population and their unique needs.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Overview

The purpose of this mixed methods design was to identify characteristics that could influence first-time, full-time freshmen persistence at USM. These characteristics were used to predict the probability of students that would not enroll during their second fall semester, and they were identified as the at-risk population. This at-risk population was found to need additional support from university administrators, faculty and staff on campus. Based on Tinto's (1975) theoretical framework, Phase I of this study reviewed several precursor or background characteristics in order to predict the probability of student enrollment. Data were collected from the university's academic records system on two freshman cohorts, 2012-2013 and 2013-2014. Each cohort included roughly 1,700 to 1,900 first-time, full-time freshman students (Figure 3). Once the best predictive model was established, additional data from the NSQ (Appendix B) were used during Phase II to further identify behavioral characteristics regarding students' expectations of college and their experiences from high school. An EFA and CFA were conducted on two freshman cohorts, 2013-2014 and 2014-2015, to identify and confirm factors or latent variables that may be influential in student persistence. The sample used during

Phase II included roughly 1,100 to 1,300 first-time, full-time freshman students (Figure 3). A final logistic regression, including the best model from Phase I and the factors from Phase II, was conducted to predict the probability of student enrollment for fall 2014. Phase III concluded the study by interviewing 9 administrators, faculty and staff at USM regarding their experience with the university student body population and to further explore the students most at-risk of not returning during their second fall semester.

Discussion and Conclusions

Using a mixed method sequential explanatory strategy, the results were reported in Chapter IV and further discussed here.

Demographics of the Population

Data used during Phase I and II for this study were first-time, full-time students at USM and a part of a freshman cohort (Figure 3). This study primarily focused on student persistence issues; therefore, the freshman cohort designation was used because the state of Mississippi calculates student retention and graduation rates on these groups (U.S. Department of Education, 2015). The majority of the sample during Phase I were female and eligible to receive the Federal Pell Grant. The majority of the students were from the state of Mississippi and two-thirds were Caucasian.

Nine administrators, faculty and staff who were knowledgeable of retention and enrollment issues at USM were interviewed during Phase III of this study. Because this study was conducted at one public four-year institution, the names, titles and job descriptions were not shared in order to protect the participants' confidentiality and anonymity. The population consisted of five females and four males. The majority of

the sample had earned doctoral degrees and had over 14 years of experience in higher education (Figure 10).

Statement of the Problem

Tinto (1975) was one of the first theorists to develop a model for student dropout and withdrawal. His theory has been applied to several other studies regarding student retention and persistence issues because the theory's core was centered on interactions in which students have in the academic and social settings of college (Figure 1). Other studies have been conducted to define at-risk as students whom were placed on academic probation or suspension, have unclear academic goals and were contemplating withdrawing, and risk factors that occur during a student's first year in college (Coll & Stewart, 2008; Chen, 2012; Gerdes & Mallinckrodt, 1994; Gifford et al., 2006; Shaw & Mattern, 2013). These studies have been conducted over time, or analysis of data occurred after a student began their first year. This type of research did not provide an opportunity for immediate intervention before a student enrolls during their first-year.

There was a gap in the literature regarding early identification for students who were more likely to need additional support in order to be successful in college. This research closed the gap by providing institutions of higher learning a guide or outline for identifying and targeting the students who are most at-risk on their particular campus and provide strategic retention initiatives that can support their needs. This research provided administrators, faculty and staff at any two or four-year institution an opportunity to create a profile assessment identifying background and behavioral characteristics that

may predict a student's likelihood to discontinue enrollment. By identifying the exact needs of the students, strategic intervention programs and policies can be developed to meet the academic and transitional needs of the at-risk population. This research helps students gain the necessary skills in order to adjust and be successful in college, as well as helps the institution increase the retention and enrollment rates on college campuses across the nation. Like Gipson stated in his interview, "if we know these are the needs of our students, shame on us if we don't try and do something about it."

Phase I

The following research questions guided the analysis and findings for Phase I: (1) Was there a relationship between ethnicity and student persistence to the second year of college? (2) Was there a relationship between gender and student persistence to the second year of college? (3) Was there a relationship between parental income and student persistence to the second year of college? (4) Was there a relationship between high school grade point average and student persistence to the second year of college? (5) Was there a relationship between scores on standardized tests and student persistence to the second year of college? (6) Was there a relationship between the time that a student has applied and been admitted to the institution and student persistence to the second year of college?

Results showed that high school GPA, English and reading sub-scaled of the ACT standardized test, eligibility for Federal Pell Grant, the parents' education level, and date of admission to the university were all significant in the best model found during Phase I: Step 3 (Table 4). Therefore, this study showed that there was a relationship between parental income, high school GPA, scores on standardized tests, and the time a student is

admitted to the institution. Results did not find a significant relationship between ethnicity and gender. This is different from other studies conducted at universities in which minority and female students were found to be more likely to withdraw during their first year of college (Chen, 2012; Ishitani, 2003; Shaw & Mattern, 2013). Beth expressed that she was not surprised to see that gender and ethnicity were not significantly influencing student persistence at USM. She said that race can serve as a proxy for social class. “It’s been my experience at USM that race is tied to generation and class, and those two things are tied to quality of high school.” The majority of the administrators, faculty and staff interviewed during Phase III expressed that students at USM were coming from communities and families in which college preparation was not discussed or understood.

Phase II

The following research questions guided the analysis and findings for Phase II:

(1) Was there a relationship between a student’s difficulty adjusting to the collegiate environment and being identified as an at-risk student? (2) Was there a relationship between a student’s level of academic engagement in high school and being identified as an at-risk student? (3) Was there a relationship between a student’s commitment to the institution and being identified as an at-risk student? (4) Was there a relationship between a student’s financial situation and being identified as an at-risk student?

When combining the behavioral characteristics measured in the NSQ with the background characteristics from Phase I, results showed that adjustment to college, institutional commitment, lack of academic engagement in high school, high school GPA, eligibility for Federal Pell Grant, the parents’ education level, and date of admission to

the university were all significant influences in student persistence at USM. Even though the best model established during Phase II: Step 2 (Table 7) included study habits ($p = .197$) and English ($p = .277$) and reading scores ($p = .264$) from ACT, these variables did not provide statistically significant results as to whether or not a student would enroll for their second fall semester. Therefore, there was a relationship between a student's ability to adjust to college, the level of academic engagement in high school, and their commitment to the institution. There was no relationship between the factor, financial concern, and being identified as an at-risk student.

The variables of amount of time that students studied outside of class, amount of time students expected to study in college, and reading through material before taking a test were all items that loaded on study habits (Table 5). All of these items were closely related to the level of academic engagement in high school, as well as their adjustment to a collegiate classroom. Lowis and Castley (2008) discussed how unrealistic expectations, such as the amount of time needed to study in college, were related to how well they performed in college. These false expectations can be related to their ability to adjust or transition from a high school academic environment to a college academic environment. Therefore, study habits may contribute to the best model found during Phase II: Step 2 (Table 7), but may not be a significant factor due to the significance of adjustment to college ($p = .007$). This relationship was also expressed in the qualitative portion of the study. Claire explained that students may not know their place in the academic world. Students were trying to understand how to be successful in the classroom and navigate relationships with people and professors.

Comparing study skills with high school GPA (Table 7), high school GPA was a stronger predictor for student persistence at USM ($p < .001$). Gifford et al. (2006) found that academic achievement was related to a student's locus of control which showed the commitment or control that student's had over their academic performance. They found that students with better study skills had higher college grade point averages. Therefore, students with poorer study skills may be at-risk, but their high school GPA may be a stronger predictor of this at-risk behavior. The notion of being under-prepared for the classroom was mentioned in the qualitative interviews by several participants. Beth mentioned that high school teachers were training students how to memorize for tests instead of teaching students proper study skills needed to be successful in college.

A similar comparison between high school GPA and study skills was made between high school GPA and standardized test scores. The best model in Phase II: Step 2 included English and reading scores on the ACT, but both variables did not report significant results (Table 7). However, English score ($p = .005$) and reading score ($p = .008$) were both significant during Phase I: Step 4 before the behavioral characteristics from the NSQ were added to the predictive model (Table 4). Once these behavioral characteristics or factors were included in the model, the significance value of the two sub-scores increased, whereas the student's high school GPA remained consistent. Both predictive models reported a significant high school GPA ($p < .001$). A conclusion was drawn that high school GPA was a strong predictor in student persistence at USM which was similar to other studies conducted (Astin, 1993; Chen & St. John, 2011; DeBerard et al., 2004). Variables were removed during the analysis in order to test the strength of the model, but the model's overall fit of data and literature did not support the variables

being removed. The decision to keep English and reading was also supported by prior research stating that both variables were factors in student retention and persistence studies (Gifford et al., 2006; Laskey & Hetzel, 2011; Tinto, 1975). During Phase III of the study, there was not a consistent finding regarding which variables were more significant. Administrators, faculty and staff discussed both variables as important factors when looking at students that may not persist to their second fall semester. Only a few participants stated that high school GPA was more influential, while others stated that both contributed to a student's success in college.

Phase II found no relationship between a student's financial concern and the likelihood that a student would not enroll during their second fall semester. The factor was entirely removed from the predictive model during Phase II: Step 2. However, eligibility for the Federal Pell Grant was a significant factor in whether a student would enroll or not enroll during their second fall semester reporting $p = .001$ during Phase I and $p = .007$ during Phase II. This illustrated that students with the highest financial need were most likely to not persist. Literature has shown that students may need to reevaluate their finances each year and how federal financial assistance does not cover the rising tuition and fees (St. John, 2000). With literature and data providing the support that students need more assistance regarding how to pay for college, it was unexpected that Financial Concern from the NSQ was not significant. Items on the NSQ that related to this factor included a student's need to work while in college and if the student had enough assistance to pay for college (Figure 4). As reported by the United States Department of Education (2013), young adults without a college degree, on average, have lower salaries than those with at least a Bachelor's Degree. This study found that both

parents' education level were significant when predicting student persistence. During Phase I: Step 3, the student's father's education level reported $p = .047$ and the mother's education level was $p = .033$ (Table 4). Both variables became more significant when the behavioral characteristics from the NSQ were added to the model (Table 7). As mentioned in multiple interviews during Phase III, first-generation college students were a concern for most of the participants. Administrators, faculty and staff felt that this particular group of USM students was lacking the knowledge and understanding of how to be a college student. This could include college tuition and fees and if students have the appropriate amount of financial aid to cover the costs. Additionally, participants believed that first-generation college students may need additional information during the college selection process, or throughout their first-year, in order to adjust their expectations of affording college and how to budget for these expenses. Therefore, the expectations or beliefs that students have regarding how to pay for college may not match the reality of their families' ability to cover the actual tuition and fees.

Phase III

The following research questions guided the analysis and findings for Phase II:

(1) What population of students did administrators believe were most at-risk of not persisting to their second fall semester at USM? (2) What were administrators doing currently to identify and assist at-risk students to persist at The University of Southern Mississippi? (3) How would having knowledge of a specific set of characteristics that identify at-risk students at their institution affect decisions regarding policy, practices and intervention programs?

Results from the qualitative phase showed that administrators, faculty and staff found students at USM were struggling to balance the transition between their academic career and the life skills needed in order to adjust. First-generation students or even students not from college-bound communities were more at-risk of not returning to USM because they lacked the knowledge and experience with how to be a successful college student. These students also showed an inability to pay for college, especially the rising cost of living on campus as a freshman. Their experiences mirrored the quantitative data from Phase I and II which showed that parents' education level and eligibility for Federal Pell Grant were influential in the likelihood that a student would persist to their second fall semester. Similarly, participants during Phase III discussed academic areas where students had a hard time adjusting to college. These areas were poor study skills, low class attendance, inability to select the appropriate academic major, and the inability to balance their course load and work commitments. Each of these academic issues were items on the NSQ which loaded on either study skills, adjustment to college, unsure of goals or decisions in college, or lack of academic engagement and commitment to college. Even though the factor, unsure of goals or decisions in college, was not found to significantly influence student persistence during Phase II, Step 2 (Table 7), administrators, faculty and staff should watch for students with unclear goals. Items that loaded on this factor during Phase II: Step 1 (Table 5) were students who were undecided in their academic major, considered transferring to another college, or who were confused about their future educational goals.

Administrators, faculty and staff were providing assistance to these students, but the efforts have been piecemeal and isolated within each unit of a department or college.

The majority of the participants discussed the lack of communication between departments and colleges, both academic and non-academic units. They talked about the importance of having a university-wide commitment to student success and retention and wanted this research to help the administration to see the need to invest proper resources for support programs. Gipson commented that “higher education becomes departmentalized, and we don’t work outside of our group.” He felt that university administrators, faculty and staff must begin to build relationships in order to improve our campus culture. He said, “Students need to see us working together.” Patrick also communicated the importance of collaborating with different departments or community organizations and businesses. The majority of the participants talked about the lack of resources ear-marked for student success and retention, and also how more resources should be invested in these areas.

Participants were intrigued by the results of this study and saw how the USM administration could use these results to guide strategic intervention programs for the students who need additional support. Beth explained that current support or intervention programs were created because certain leadership knew it could help the bottom line of financial stability for the institution. This was related to the research conducted by O’Keefe (2013) in which the results showed how the poor retention of students can result in the loss of tuition revenue and state funding. However, Beth pointed out that the main reason for reaching out to these students in need was to help them not fall through the cracks. Candace agreed, saying that this research was “incredibly valuable information for us to use, not only in “identifying new policy, but reaffirming some of the things or programs we already have in place.”

The qualitative data emphasized the importance of early intervention. Singell and Waddell (2010) expressed how early intervention could help institutions of higher learning reach out to specific student populations and provide assistance for their unique needs. As Elizabeth suggested,

All universities across the country have a potential for growth when it comes to working with student success. If you [administrators, faculty, or staff] are smart and identify these factors on the front-end, you can start providing support and help students be more successful. This support could be financial assistance, counseling, or living-learning situations.

Early intervention was expressed by most participants as a proactive way to approach student retention instead of reacting to a student's poor academic performance in college, or their want to withdrawal from the university. Rick stated that universities could grow enrollment by increasing the retention efforts on campus, but administrators, faculty and staff must have an understanding of "who their students are and where they are coming from" in order for retention efforts to be effective.

Recommendations for Practice

The results of this study provided characteristics that influence a student's likelihood to enroll during their second fall semester specifically at USM. However, Chapter IV provided an outline or guide for practitioners in higher education to follow when identifying an at-risk population on their campus. This guide outlined the necessary steps needed for university administrators, faculty and staff to effectively

explore the needs of their students. Once university officials determine which population should be targeted to improve retention efforts, data should be collected from students' admissions and financial aid applications. Steps outlined during Phase I and II should be conducted to find the factors or characteristics which predict the probability that students would enroll, or not enroll, for the second fall semester. Using the quantitative results, university officials would explore these characteristics by interviewing administrators, faculty and staff to further identify the at-risk population, and ways in which their institution can support those needs. After conducting the qualitative research, a comprehensive analysis can be conducted to develop strategic initiatives that assist their students' specific needs.

General Recommendations for Practice for Institutions of Higher Learning

This research identifies characteristics that affect student retention and can guide decisions regarding university policy, intervention programs, and future goals. In regards to university policy, this research supported explorations into policies for admission standards and potential development for remediation courses based on the background or precursor characteristics. University officials may not have control of how students are prepared at the secondary levels, but they could identify students who need additional support, and then create remediation courses for their needs during the first semester of college. If a student applied to a university with the background characteristics that have been found to significantly influence student persistence on their campus, students could be placed on a conditional admission status. This status would create greater access to higher education, but allow university officials an opportunity to offer strategic intervention programs that helps students before they are unsuccessful in college. As

Candace mentioned, “one size does not fit all”, so not all students would not need early intervention or conditional admission status. Similarly, university administrators, faculty and staff should understand the importance of educating the student population and providing them with a “how to” approach for being a college student. This research could help purposefully plan orientation programming by tailoring educational presenters, information in printed materials, and specific programming initiatives around the needs of their students.

Colleges and universities could also use this research to further develop curriculum that may help students persist or be more successful at their institutions. Faculty could identify student populations who need specific intervention, and then develop curriculum around those needs. Courses could include career development, time management and study skills, knowledge on financial planning, and other topics which relate to the characteristics that influence their student population’s ability to be successful. Results could influence how university officials train their faculty and advisors regarding university policies and best practices. Seminars and forums focusing on certain needs of the student body could be held to educate faculty and staff on the students whom they serve, and how to better assist their individual needs. These training sessions should include results from their research which allow faculty and staff to make more informed decisions on how to support curriculum development and advising methods specifically for their disciplines.

Another important intervention program that emerged from the research, and especially for populations with low-income students, related to more education on helping students understand their personal and educational finances. Several participants

discussed the importance of understanding the costs associated with college. According to the Higher Education Act of 1965, financial literacy was described as providing educational services to advance the financial literacy of students and their families regarding basic income management and financial planning for post-secondary education. Patrick expounded that financial literacy should provide a combination of how to pay for college, how to borrow wisely, and how that borrowing can affect your life after you graduate. Emily wanted to see more education devoted to helping students understand their personal finances and how to manage their money and budget wisely for the future. This type of programming could be highly effective in helping them continue their education and afford more than one year of college. Rick illustrated the significance of this type of intervention when helping a first-generation college student inform her grandmother as to why a grandmother could not use the student's loans to pay for her personal expenses:

We had to come up with a financial management plan for the student and explain it to the grandmother. The grandmother was not ill-intended, she just did not have a clue. She had never been to college, and she thought that her granddaughter was receiving a big check. The student's grandmother thought that she had supported her, so it was now time for the granddaughter to support her back.

Recommendations for Practice for The University of Southern Mississippi

Because this research is designed to specifically identify characteristics that are unique to one student population, recommendations emerged to help USM increase retention initiatives on campus. In regards to university admissions policy and practice, a conditional admission standard or remediation courses could be implemented or be

required for students with certain background or precursor characteristics established during Phase I: Step 3 (Table 4). These remedial courses could be based upon high school GPA, or the English or reading scores on the ACT. Results also support the claim that certain students may benefit from a university course which includes developing important behavioral characteristics outlined in Table 7. Admissions officers should be mindful of the information given to students, especially first-generation students, during the college selection process. Specifically focusing on USM's student body population, admissions officers should discuss college costs and managing their expectations of how to be a college student.

To assist the large number of first-generation students on USM's campus, orientation programming, or specific course curriculum, could be established to help students adjust to unfamiliar university policies and practices. Reviewing results from Phase II: Step 2 (Table 7), this curriculum could focus on students' study habits and how to be actively engaged in a collegiate classroom. It could also focus on institutional commitment issues, provide opportunities for them to be engaged on campus, and assist them to build personal relationships with faculty. Courses could include a career exploration element. It may help students become more confident with their academic major or educational goals. Another way USM could help their students adjust to the demands and expectations of college life is to promote counseling services which help students cope with barriers or disappointments. They could also provide coaching on how to gain certain life skills, such as managing time or setting clear goals during the next four to five years of college.

University-wide training and commitment to faculty and staff development in terms of teaching and advising students on campus were both areas that could impact higher education. Based on the findings discussed in Chapter IV, USM could develop training areas to help students engage in the classroom, take effective notes for studying, help students discover what resources, if any, are available on campus to help students not academically prepared to succeed in the classroom, and how to connect students to financial opportunities to ease the burden of college tuition and fees. More intervention programs and outreach could be done in order to reach out to students who are not attending class on a regular basis and motivate them to stay engaged in the classroom; policies regarding class attendance could be established or revisited, as well. More intervention programs could occur once students are placed on probation for their college GPA.

Participants felt that faculty at USM, in particular, should understand the backgrounds and abilities of the students they teach and advise. Beth mentioned that faculty at USM are hired because they are nationally recognized as top faculty from research-focused graduate programs. Their backgrounds may be different from those experiences of first-generation or low-income families. Candace also agreed that “faculty members should have an appreciation for the students in which USM serves.” She expressed that some faculty members have a set standard for how they teach their courses, yet may not feel it is their responsibility to help students meet those standards. Other participants during Phase III expressed a concern for academic advisement and helping students understand how to balance their course load while working full-time or providing for their families on the weekends. Smith (2013) explained that advising is

about helping students find the staying power which connects students' formal academic experiences and social experiences. She expressed that university leadership must make advising a priority and provide training on how to develop conversation that matters to students.

Finally, educational programs should be developed to help the large number of first-generation and low-income students at USM understand their finances. This topic could be a part of the university or orientation curriculum or a separate program targeting students who were from low-income families. More need-based institutional assistance could be given to students with characteristics that were established in Phase II: Step 2 (Table 7). Students with higher high school grades and behavioral characteristics that show they will be actively engaged in the collegiate classroom could receive more need-based aid to cover the costs of tuition and fees. Need-based aid could also be given to low-income students based on their first fall semester GPA in college.

Limitations and Recommendations for Future Research

A recommendation for future research is to adapt the New Student Questionnaire. Based on the EFA and CFA conducted during Phase II, the questionnaire may provide stronger results if the same scale was used for all items. If all items used the same scale, Cronbach's alpha scores could be estimated to analyze internal reliability during the EFA, and regression weights could have been constrained to one during the CFA analysis. Based on data from the qualitative phase of the study, both financial concerns and a lack of commitment to goals and decisions in college were found to be common themes amongst administrators, faculty and staff at USM. More items on the questionnaire could be added to further examine these factors and the likelihood that they

could influence student persistence. More items regarding financial concern could also reaffirm the findings from Phase I and II that students from low-income families were more likely to not enroll during their second fall semester. Finally, there was an insufficient amount of literature and research to support how the geographic location of an institution affects retention and persistence initiatives. Items could be added to the NSQ to explore these findings and examine students attending college from small, rural communities where four-year college opportunities are not readily available or discussed. Items could also be related to the idea surrounding a student's task-relevant maturity reported during Phase III.

Because this study only focused on first-time, full-time freshman students in a designated cohort, the results from this study may be limited to a traditional-aged student population. The majority of these students were aged 18 or older, and they started their first-year of college right out of high school. If other institutions of higher learning were wanting to identify specific needs for their student body population, administrators, faculty and staff should determine which audience should be targeted for research purposes. Similarly, students transferring to a four-year institution may need to be considered in future research. This transfer population emerged from the qualitative data as a population that had its own set of unique characteristics and qualities. It is important for this type of research to focus on the goals and mission of an institution. For purposes of this research, the freshman cohort was chosen because the state of Mississippi calculates retention and graduation rates based on this cohort designation. Because USM is a public institution in Mississippi and receives state appropriations based on the

retention rates of its students, this research has the potential to help USM implement effective policies and programs that increase student enrollment and tuition revenue.

In conclusion, this research can inform university officials on the needs of their student population by identifying characteristics that influence student persistence on campus. The research procedures established during Chapter IV can guide administrators, faculty and staff when creating profile assessments unique to their students' high school experiences, expectations of college, and academic preparedness. Knowing which specific background and behavioral characteristics can influence student success on their campuses can allow opportunities for immediate action and early intervention programs. University policies, practices, and future goals can be adjusted to serve students' needs and support university retention and persistence efforts on campus.

APPENDIX A

PERMISSION FROM UNIVERSITY OF OKLAHOMA TO USE 2011 NEW
STUDENT SURVEY

Erin Dornan

From: Pleitz, Jacob D. <Jacob.D.Pleitz-1@ou.edu>
Sent: Tuesday, August 13, 2013 7:37 PM
To: Erin Dornan; Terry, Robert A.; Campbell, Nicole J.
Subject: RE: New Student Survey | Follow-up question

Hello Erin,

We are excited that you are interested in using the constructs from the New Student Survey to study student retention. We recently had the pleasure of meeting with Lt. Col. Frederick Varnado from the University of Southern Mississippi, and he informed us that USM was doing very exciting things within the field.

I will be glad to send you detailed information on the scale creation and findings. Hopefully I can have a report to you by this evening or tomorrow afternoon at the latest. Best wishes to you and the University as you prepare for the upcoming semester.

Sincerely,

Jacob D. Pleitz M.S.
 Dept. of Psychology
 University of Oklahoma

From: Erin Dornan [erln.l.dornan@usm.edu]
Sent: Tuesday, August 13, 2013 1:02 PM
To: Pleitz, Jacob D.; Hife, Dustin; cp@ou.edu; Terry, Robert A.; Campbell, Nicole J.
Cc: Erin Dornan
Subject: New Student Survey | Follow up question

Higher Education colleagues,

Our university had several representatives at the Retention Symposium in New Orleans, LA last November. We heard your presentation and enjoyed learning about your New Student Survey. I have adapted this survey to fit our campus and will start analyzing the data in September 2013.

From the Conference Proceedings CD, I saw where you did identified constructs through a combination of exploratory and confirmatory factor analysis. Would it be possible for you to explain these sub-scales and your findings? I would like to review your findings to ensure I correctly analyze our results.

My direct line is 601.266.5877 or cell is 601.818.2520 if it would be easier to discuss over the phone. I look forward to hearing from you. Thank you again for presenting.

Erin Lambert Dornan, M. Ed.
 The University of Southern Mississippi
 Assistant Director
 First Year Initiative
 Student Success Center
 118 College Drive #5034
 Hattiesburg, MS 39406
 Phone: 601.266.6405
 Fax: 601.266.6150

APPENDIX B

2013 NEW STUDENT QUESTIONNAIRE

Providing your student ID will allow the university to connect you with academic resources and programs in order to help you have a successful first year. Your student ID number is requested for research purposes and will not be listed on any published report. In no way will you be penalized (academically, financially, etc.) for providing your USM student ID and responses to this questionnaire.

1. Student ID: (Ex: 123456)

Official university communication will be sent to you at your @eagles.usm.edu email address. You should check this email regularly. While we hope you'll use your Southern Miss email address, we understand if you have a different email address that you prefer to use. Please indicate the email address you plan to use during your first year at Southern Miss.

[All email addresses provided to us will be stored in a separate database.]

2. Student Preferred E-mail:

- ☐ I will use my @eagles.usm.edu address.
- ☐ I want to use a different email address. The different email address I want to use:

Please select the option that most appropriately applies to your situation:

3. The population of my hometown is

- ☐ Under 2,500
- ☐ 2,500 - 9,999
- ☐ 10,000 - 49,999
- ☐ 50,000 - 99,999
- ☐ Over 100,000
- ☐ I do not know.
- ☐ I do not wish to answer at this time.

4. What is the highest level of education your father completed?

- ☐ Did not complete high school
- ☐ Graduated from high school
- ☐ Did some college work
- ☐ Received a bachelor's degree
- ☐ Received a degree beyond a bachelor's degree (i.e., master's, Ph.D., juris doctorate, M.D., etc.)
- ☐ I do not know.
- ☐ I do not wish to answer at this time.

5. What is the highest level of education your mother completed?

- ☐ Did not complete high school
- ☐ Graduated from high school
- ☐ Did some college work
- ☐ Received a bachelor's degree
- ☐ Received a degree beyond a bachelor's degree (i.e., master's, Ph.D., juris doctorate, M.D., etc.)
- ☐ I do not know.
- ☐ I do not wish to answer at this time.

6. One or both of my parents or grandparents earned a degree from Southern Miss.

- ☐ Yes
- ☐ No
- ☐ I do not wish to answer at this time.

7. While you were in high school, indicate how frequently you did the following things:

	Almost Never	Seldom	Frequently	Very Often	I do not wish to answer at this time.
Went to class without doing homework or assignments					
Initiated a discussion with a teacher about assignments, tests, or grades					
Tutored another student					
Sought the advice of my school guidance counselor					
Felt bored in class					
Studied with other students outside of class					
Felt overwhelmed by all that I had to do					
Went late to class					
Skipped classes					

8. During my first year at Southern Miss, I anticipate that I will work at a job

- 0 hours per week
- 1-10 hours per week
- 11-20 hours per week
- 21-40 hours per week
- More than 40 hours per week
- I do not wish to answer at this time.

9. While in high school, the amount of time I spent studying outside of class was

- 0 hours per week
- 1-10 hours per week
- 11-20 hours per week
- 21-40 hours per week
- More than 40 hours per week
- I do not wish to answer at this time.

10. In college, the amount of time I expect to spend studying outside of class is

- 0 hours per week
- 1-10 hours per week
- 11-20 hours per week
- 21-40 hours per week
- More than 40 hours per week
- I do not wish to answer at this time.

11. Did you take math your senior year of high school?

- Yes
- No
- I do not wish to answer at this time.

12. Your first year at Southern Miss will bring many changes to your daily life. Please rate each of the following in terms of how difficult you predict the adjustment will be for you.

	Very Easy	Easy	Neutral	Difficult	Very Difficult	I do not wish to answer at this time.
Fitting into the campus environment						
Balancing responsibilities						
Doing well academically						
Being in large classes						
Living with a roommate						
Combining a job with my studies						
Making new friends						
Leaving family						
Getting involved in campus activities						
Maintaining friendships from home						
Having enough money						

13. How many colleges did you apply to this year, including Southern Miss?

One

Two

Three

Four

Five or more

Other, please specify:

I do not wish to answer at this time.

14. In selecting a college, USM was my

1st choice

2nd choice

3rd choice

4th choice

5th choice

Other, please specify:

I do not wish to answer at this time.

15. The majority of your friends in high school are

Attending Southern Miss too

Attending another 4-year college or university in Mississippi

Attending another 4-year college or university outside of Mississippi

Attending a community/junior college

Not going to college

I do not wish to answer at this time.

16. Please indicate how important each of the following was in your decision to attend Southern Miss:

	Extremely Important	Relatively Important	Relatively unimportant	Extremely unimportant	I do not wish to answer at this time.
Academic reputation					
Believe I will fit in at Southern Miss					
Athletic success					
Geographic location of USM					
Campus size					
Advice of parents, relatives, teachers, counselor, or friends					

17. Please indicate how important each of the following was in your decision to attend Southern Miss:

	Extremely Important	Relatively Important	Relatively unimportant	Extremely unimportant	I do not wish to answer at this time.
Cost of attending Southern Miss					
Financial aid and/or scholarships received					
Attention received from Southern Miss Admissions (emails, phone calls, etc.)					
Quality of Southern Miss campus tour experience					
Quality of Southern Miss recruitment materials (e.g., mail and brochures)					

18. On average, how frequently do you check your preferred email address?

- Several times a day
- Once a day
- Every other day
- Once a week
- Hardly ever

19. Do you think you will use Facebook for news, updates, and information about campus during your first year at Southern Miss?

- Yes
- Maybe
- No (and I have a Facebook account)
- No (I don't have a Facebook account)
- I do not wish to answer at this time.

20. Do you think you will use Twitter for news, updates, and information about campus during your first year at Southern Miss?

- Yes
- Maybe
- No (and I have a Twitter account)
- No (I don't have a Twitter account)
- I do not wish to answer at this time.

21. On average, how many minutes a day do you spend playing video/computer/Internet games?

0: I don't play video/computer/Internet games.

1-15 minutes

16-30 minutes

31-59 minutes

1 to 1.5 hours

1.51 to 3 hours

3.1 to 5 hours

More than 5 hours a day

I do not wish to answer at this time.

22. From the following list, please check your preferred method for receiving information from Southern Miss about services, deadlines, resources, etc.

Home phone (not my mobile phone)

Mobile phone

@eagles.usm.edu email address

Other email address (not my @eagles.usm.edu email address)

U.S. Mail

Text messaging

Facebook

Twitter

Other

I do not wish to answer at this time.

23. Please indicate the extent to which you agree or disagree with each of the following items:

	Strongly disagree	Disagree	Agree	Strongly Agree	I do not wish to answer at this time.
I rarely studied outside of class when in high school.					
Reading through the material prior to a test is about all I have to do to be academically successful.					
I intend to participate in study groups in my courses.					
I learn best by going over and over the material until I have the information memorized.					
I am responsible for what and how well I learn.					
I intend to graduate from college in 4 years or less.					
I expect to work hard at studying in college.					

24. Please indicate the extent to which you agree or disagree with each of the following items:

	Strongly disagree	Disagree	Agree	Strongly Agree	I do not wish to answer at this time.
At the present time, I have enough financial resources to complete my first year at Southern Miss.					
I need to work to afford to go to school.					
On occasion, I have had doubts about my ability to succeed in life.					
It will be difficult to leave my family and high school friends at home while attending Southern Miss.					
I plan to transfer to another college sometime before completing a degree at Southern Miss.					
I feel confused and undecided as to my future educational goals.					
Of the things I could be doing at this point, going to college is the most satisfying.					

25. Please mark anything that is applicable to your situation. Do you have a

Visual impairment/blindness

Mobility impairment

Speech impairment

Learning difference/disability

Hearing impairment/deafness

Chronic health problem

N.A.

Other, please specify:

I do not wish to answer at this time.

26. Would you like for someone to contact you about accommodations for the conditions you indicated above?

Yes

No

N.A.

I do not wish to answer at this time.

27. Golden Eagle Welcome Week (GEWW) will take place August 18-20. GEWW is designed to be a fun and informative way of making you an official member of the Southern Miss family. You will learn valuable information about your major, academic success, and activities and organizations that interest you. Do you want to participate in Golden Eagle Welcome Week?

Yes

No

I am not sure/have not yet decided.

I do not wish to answer at this time.

28. How sure are you about your choice of academic major?

☐ I am very sure.

☐ I am somewhat sure.

☐ I am unsure.

☐ I do not wish to answer at this time.

29. During my first year, I will live

☐ On campus in a residence hall

☐ Off campus with a parent/guardian/relative

☐ Off campus in an apartment or house with roommates

☐ I do not wish to answer at this time.

30. How often do you plan on going home during the school year?

☐ Once a year

☐ Twice a year

☐ Once a semester

☐ Twice a semester

☐ Once a month

☐ Pretty much every weekend

☐ N/A-I will live at home during the school year.

☐ I do not wish to answer at this time.

31. Are you interested in joining a sorority or fraternity at Southern Miss?

☐ Yes

☐ No

☐ I am not sure/have not yet decided

☐ I do not wish to answer at this time.

Thank you for completing the New Student Questionnaire. We look forward to helping you have a successful first year at Southern Miss. Please remember that the First Year Initiative (FYI) will be contacting you throughout your first year and to feel free to contact them for assistance.

First Year Initiative (FYI)
Student Success Center, The University of Southern Mississippi
McLemore Hall, room 207
phone: 601.266.6405
fax: 601.266.6150
fyi@usm.edu

APPENDIX C

INFORMED CONSENT FOR STUDENT PARTICIPANTS: 18 AND OLDER

The office of First Year Initiative is gathering information regarding the incoming class of 2013. This New Student Questionnaire covers information regarding your high school experiences, application process at Southern Miss, and expectations of college during your first year. Your responses will guide faculty and staff at Southern Miss in connecting you with the resources that you need to have a successful first year in college. The responses will also assist university administration in retention and graduation initiatives.

Since responses will allow the university to connect you with academic resources and programs to help you have a successful first year, completion of the New Student Questionnaire is strongly encouraged. It will take approximately 10-15 minutes to complete this questionnaire. Please be assured that the information you provide here will only be used by the Division of Student Affairs at The University of Southern Mississippi, specifically Enrollment Management, and will be kept completely confidential. In no way will you be penalized (academically, financially, etc.) for providing your USM student ID and responses to this questionnaire. Your student ID number is requested for research purposes only and will not be listed on any published report. Again, all information obtained through this questionnaire will remain completely confidential, and you will have the option to not respond to any question you do not wish to answer. Upon completion of the data analysis, all questionnaires will be destroyed.

By submitting this questionnaire, you give permission for The University of Southern Mississippi to review your responses. Remember all information is confidential and secure. If you have any questions about the New Student Questionnaire or how the data will be used, please feel free to contact the office of First Year Initiative at fyi@usm.edu or 601.266.6405.

Welcome to the Southern Miss family!

First Year Initiative (FYI)
The University of Southern Mississippi

[The New Student Questionnaire has been reviewed by the Human Subjects Protection Review Committee, Institutional Review Board, which ensures that research projects involving students follow federal regulations: 118 College Drive #5147, Hattiesburg, MS 39406-001, 601.266.6820]

APPENDIX D

INFORMED CONSENT FOR STUDENT PARTICIPANTS: 17 AND YOUNGER

The office of First Year Initiative is gathering information regarding the incoming class of 2013. This New Student Questionnaire covers information regarding your high school experiences, application process at Southern Miss, and expectations of college during your first year. Your responses will guide faculty and staff at Southern Miss in connecting you with the resources that you need to have a successful first year in college. The responses will also assist university administration in retention and graduation initiatives.

Since responses will allow the university to connect you with academic resources and programs to help you have a successful first year, completion of the New Student Questionnaire is strongly encouraged. It will take approximately 10-15 minutes to complete this questionnaire. Please be assured that the information you provide here will only be used by the Division of Student Affairs at The University of Southern Mississippi, specifically Enrollment Management, and will be kept completely confidential. In no way will you be penalized (academically, financially, etc.) for providing your USM student ID and responses to this questionnaire. Your student ID number is requested for research purposes only and will not be listed on any published report. Again, all information obtained through this questionnaire will remain completely confidential, and you will have the option to not respond to any question you do not wish to answer. Upon completion of the data analysis, all questionnaires will be destroyed.

Federal law requires that any research conducted involving the use of any person under the age of 18 must obtain parental consent prior to the research taking place. We are contacting your parents/guardians and explaining the purpose of this questionnaire. We will inform them that your responses will have no negative consequences (academically, financially, etc.) towards you and all responses will be kept confidential. If your parents/guardians do not provide consent, your answers will not be used for purposes of research.

Remember all information is confidential and secure. If you have any questions about the New Student Questionnaire or how the data will be used, please feel free to contact the office of First Year Initiative at fyi@usm.edu or 601.266.6405.

Welcome to the Southern Miss family!

First Year Initiative (FYI)
The University of Southern Mississippi

[The New Student Questionnaire has been reviewed by the Human Subjects Protection Review Committee, Institutional Review Board, which ensures that research projects involving students follow federal regulations: 118 College Drive #5147, Hattiesburg, MS 39406-001, 601.266.6820]

APPENDIX E

PARENTAL CONSENT FORM

The office of First Year Initiative is gathering information regarding the incoming class of 2013. This New Student Questionnaire covers information regarding your student's high school experiences, application process at Southern Miss, and expectations of college during your first year. Your student's responses will guide faculty and staff at Southern Miss in connecting them with academic resources and programs to help your student have a successful first year in college. The responses will also assist university administration in retention and graduation initiatives.

Since responses will allow the university to connect students with academic resources and programs, completion of the New Student Questionnaire is strongly encouraged. Federal law requires that any research conducted involving the use of any person under the age of 18 must obtain parental consent prior to the research taking place. Participation in the questionnaire will have no negative consequences (academically, financially, etc.) towards your student and all responses will be kept confidential. If you do not provide consent, your student's answers will not be used for purposes of research.

Please be assured that the information you provide here will only be used by the Division of Student Affairs at The University of Southern Mississippi, specifically Enrollment Management, and will be kept completely confidential and secure.

If you have any questions about the New Student Questionnaire or how the data will be used, please feel free to contact the office of First Year Initiative at fyi@usm.edu or 601.266.6405.

First Year Initiative (FYI)
The University of Southern Mississippi

[The New Student Questionnaire has been reviewed by the Human Subjects Protection Review Committee, Institutional Review Board, which ensures that research projects involving students follow federal regulations: 118 College Drive #5147, Hattiesburg, MS 39406-001, 601.266.6820]

1. We ask that you provide your student's ID number. The student ID number is requested for research purposes only and will not be listed on any published report. We will also use this information to connect your student with academic resources. He/she will not be penalized (academically, financially, etc.) for providing the USM student ID and responses to this questionnaire. Again, all information obtained through this questionnaire will remain completely confidential. Upon completion of the data analysis, all questionnaires will be destroyed.

Your Student's ID number: (Ex: 123456)

2. Please indicate below if you grant parental consent.

- ☐ Yes. I give my consent for my student to complete this questionnaire. I understand that all responses are confidential and cause no harm to my student. I also know that this information will help my student be connected to academic resources and programs at Southern Miss.
- ☐ No. I do not give my consent for my student to complete this questionnaire. I understand that all responses are confidential and cause no harm to my student.

APPENDIX F

INSTITUTIONAL REVIEW BOARD FOR NEW STUDENT QUESTIONNAIRE



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 13022002

PROJECT TITLE: First Year Initiative - New Student Questionnaire

PROJECT TYPE: New Project

RESEARCHER(S): Erin Lambert Dorman

DEPARTMENT: Enrollment Management

DIVISION: First Year Initiative (FYI)

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 02/28/2013 TO 02/27/2014

Lawrence A. Hosman, Ph.D.
Institutional Review Board

APPENDIX G

INSTITUTIONAL REVIEW BOARD TO CONNECT PHASE I AND II TO PHASE III



INSTITUTIONAL REVIEW BOARD
 118 College Drive #5147 | Hattiesburg, MS 39406-0001
 Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
 Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: CH14102102
 PROJECT TITLE: Identifying Characteristics that Influence First-time, Full-time Freshmen Persistence at USM and Exploring Effective and Strategic Retention Initiatives
 PROJECT TYPE: Change to a Previously Approved Project
 RESEARCHER(S): Erin Lambert Doman
 COLLEGE/DIVISION: College of Education and Psychology
 DEPARTMENT: Educational Studies and Research
 FUNDING AGENCY/SPONSOR: N/A
 IRB COMMITTEE ACTION: Exempt Review Approval
 PERIOD OF APPROVAL: 01/23/2015 to 01/22/2016
Lawrence A. Hosman, Ph.D.
Institutional Review Board

APPENDIX H

QUALITATIVE INTERVIEW QUESTIONS

Before I provide the results of my study, I would like to ask you about your experience and knowledge regarding the student body population at USM.

1. In your experience, what characteristics can influence a student's likelihood to persist to their second fall semester at USM?
2. The purpose of this study is to identify an at-risk population specifically for USM. What, if any, is the importance of understanding Southern Miss' student body population and their needs?
3. What, if any, are you doing currently in your position to identify students that are at-risk of not persisting to their second fall semester at USM?
 - a. (If they identify an at-risk group) What, if any, are you doing currently to provide assistance to help these students at USM persist?

Now that I have provided you with data on this at-risk population at USM...

4. In an ideal world with no restrictions, how would having this knowledge affect your decisions regarding policy?
 - a. Similarly, how would having data on at-risk students affect your decisions regarding intervention programs?
 - b. How would having this data affect your future goals?
 - c. From the variables mentioned, what, if any, results were of interest to you?

- d. Tell me about a time when you have worked with a first-year student that was struggling to stay at USM?
- 5. Finally, what is the importance of knowing exactly which group of students on your campus would need support during their first year in order to persist?

APPENDIX I

INSTITUTIONAL REVIEW BOARD FOR PHASE III



INSTITUTIONAL REVIEW BOARD
 118 College Drive #5147 | Hattiesburg, MS 39406-0001
 Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
 Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 14102102
 PROJECT TITLE: Identifying Characteristics that Influence First-time, Full-time Freshmen Persistence at USM and Exploring Effective and Strategic Retention Initiatives
 PROJECT TYPE: New Project
 RESEARCHER(S): Erin Lambert Doman
 COLLEGE/DIVISION: College of Education and Psychology
 DEPARTMENT: Educational Studies and Research
 FUNDING AGENCY/SPONSOR: N/A
 IRB COMMITTEE ACTION: Exempt Review Approval
 PERIOD OF APPROVAL: 10/27/2014 to 10/26/2015
Lawrence A. Hosman, Ph.D.
Institutional Review Board

APPENDIX J

LONG CONSENT FORM FOR QUALITATIVE INTERVIEWS

INSTITUTIONAL REVIEW BOARD
LONG FORM CONSENT

LONG FORM CONSENT PROCEDURES

This completed document must be signed by each consenting research participant.

- The Project Information and Research Description sections of this form should be completed by the Principal Investigator before submitting this form for IRB approval.
- Signed copies of the long form consent should be provided to all participants.

Last Edited August 28th, 2014

Today's date:		
PROJECT INFORMATION		
Project Title: Identifying characteristics that influence first-time, full-time freshmen persistence at USM and exploring effective and strategic retention initiatives		
Principal Investigator: Erin Lambert Dornan	Phone: 601-818-2520	Email: Erin.L.Dornan@usm.edu
College: Education/Psychology	Department: Educational Studies and Research	
RESEARCH DESCRIPTION		
<p>1. Purpose:</p> <p>The goal of this mixed-method study is to gain a more comprehensive understanding of student persistence for first-time, full-time students at The University of Southern Mississippi. The researcher is gathering information from administrators, faculty and staff at USM who have responsibilities and insight into enrollment management and retention issues. Through a semi-structured interview, the goal of this descriptive qualitative research is to gain a more comprehensive understanding of student persistence at USM, and how these characteristics can influence university policy and practice. The interviews will build upon research that identifies characteristics of an at-risk population at USM. These characteristics were identified, prior to interviews, which established a predictive model for student persistence at USM.</p> <p>2. Description of Study:</p> <p>All participants will be asked to engage in a personal face-to-face interview with the researcher that may last up to 45 minutes in duration. Once the participant has provided informed consent, a semi-structured interview consisting of approximately 5-10 open-ended questions will be used to facilitate the interview. Participants will also have a chance to provide dialogue regarding their views on implementing strategic and effective academic and support programs in hopes to increase retention on college campuses. Interviews are expected to last no more than 45 minutes. Upon completion of each interview, the digital audio files will be transcribed and provided to the participant for accuracy review. Any changes noted by the participant will be collected and incorporated in the final transcript.</p> <p>3. Benefits:</p> <p>This research can contribute to the literature regarding student retention issues on university campuses. By establishing a method to identify characteristics of an at-risk population of students, administrators, faculty and staff of postsecondary institutions can be equipped to implement specifically targeted, and hopefully more effective, retention and graduation practices.</p>		

4. Risks:

There will be minimal to nonexistent risks in this research. Every effort will be made to protect the confidentiality and anonymity of research participants. Personal names and titles will not be identified. Pseudonyms will be provided for each participant. Digital recordings will be stored on password-protected computers and interview transcripts will be kept in a locked file drawer in the researchers' office.

5. Confidentiality:

All information gathered from semi-structured interviews will be kept confidential. Personal names and titles will not be identified. Pseudonyms will be provided for each participant. Digital recordings will be stored on password-protected computers and interview transcripts will be kept in a locked file drawer in the researchers' office.

6. Alternative Procedures:

NA

7. Participant's Assurance:

This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations.

Any questions or concerns about rights as a research participant should be directed to the Chair of the IRB at 601-266-5997. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits.

Any questions about the research should be directed to the Principal Investigator using the contact information provided in Project Information Section above.

CONSENT TO PARTICIPATE IN RESEARCH

Participant's Name: |

Consent is hereby given to participate in this research project. All procedures and/or investigations to be followed and their purpose, including any experimental procedures, were explained to me. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected.

The opportunity to ask questions regarding the research and procedures was given. Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project.

Questions concerning the research, at any time during or after the project, should be directed to the Principal Investigator with the contact information provided above. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-5997.

Erin Lambert Dorman

Research Participant

Person Explaining the Study

Date

Date

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